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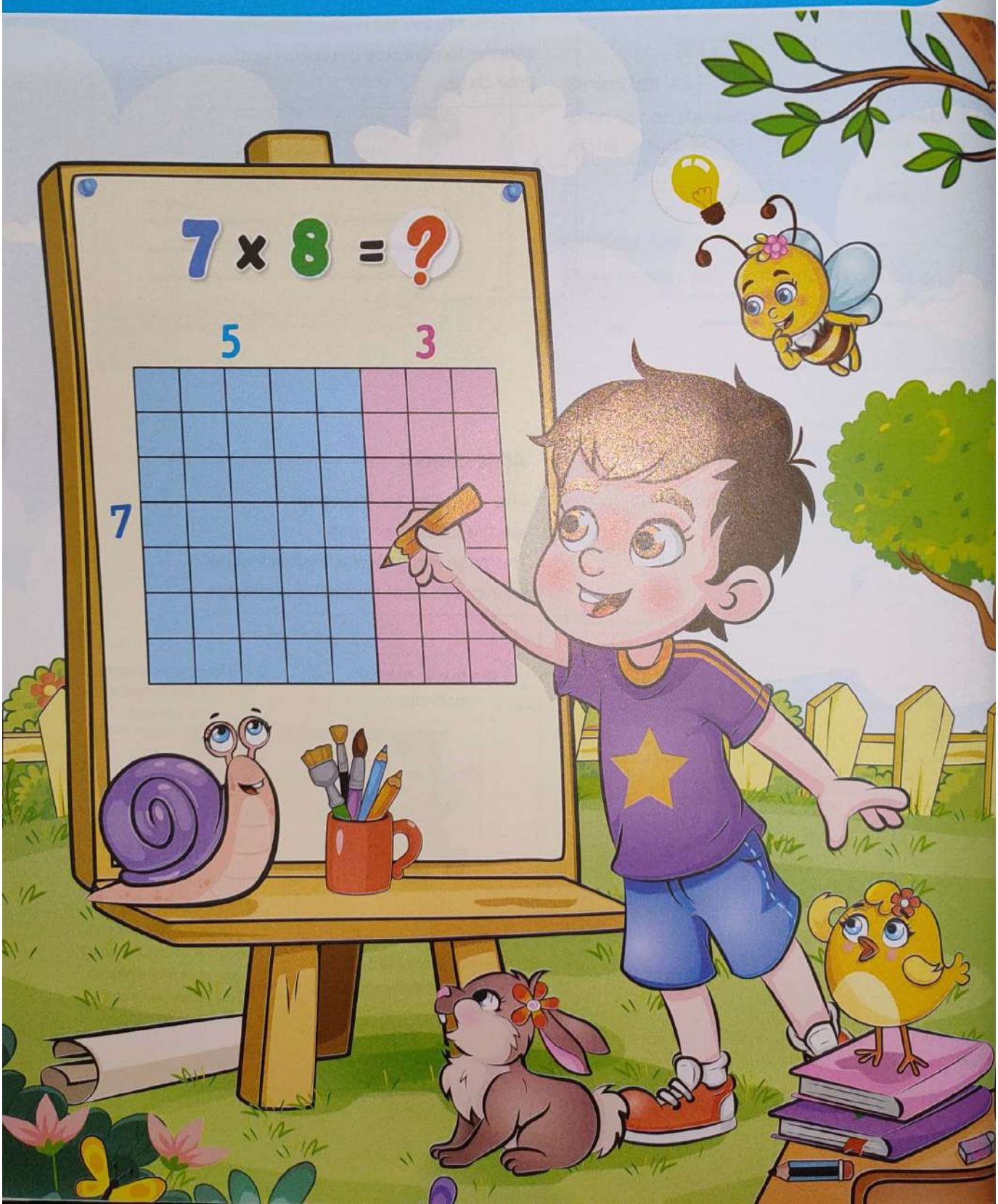
Chapter 1



Outcomes

At the end of chapter one, your child will be able to:

Lesson 61

- Explain the associative property of multiplication.
- Apply the associative property of multiplication to solve problems.
- Collaborate to define math terminology in his/her own words.

Lesson 62

- Explain the distributive property of multiplication.
- Apply the distributive property of multiplication to solve problems.
- Collaborate to define math terminology in his/her own words.

Lesson 63

- Apply strategies to estimate products.
- Apply properties and strategies to solve multiplication problems.
- Explain chosen problem-solving strategies.

Lessons 64 & 65

- Explain the relationship between multiplication and division.
- Solve multiplication and division problems with an unknown number.
- Explain how he/she can use the relationship between multiplication and division to solve problems.
- Identify a variety of multiplication and division problem-solving strategies.
- Apply more than one strategy to solve multiplication and division problems with an unknown number.
- Justify the use of preferred problem-solving strategies.

Lesson 66

- Solve perimeter problems involving an unknown side length.

Lessons 67 to 70

- Solve two-step story problems involving addition, subtraction, multiplication, or division.
- Explain the strategies he/she use to solve complex story problems.
- Analyze solutions to two-step problems to identify and explain the errors made.
- Explain the benefits of error analysis in improving thinking and learning.
- Apply multiple strategies to solve two-step story problems.
- Justify problem-solving strategies.
- Write two-step problems involving any operation.

Key vocabulary

- Associative property
- Parentheses
- Fact family
- Width
- Distributive property
- Addend
- Quotient
- Perimeter
- Product
- Bar model
- Inverse
- Area
- Factors
- Estimation
- Strategy
- Length
- Multistep problem

Lesson

61 Associative property of multiplication

Learn Associative property

Vocabulary

Associative property tells us when we multiply, we can change the grouping of factors and the product will be the same.

Parentheses ( ) are a pair of round brackets, used to regroup factors.

How can you multiply 3 numbers ?

When you multiply 3 or more numbers, you can choose which 2 numbers you want to multiply first using parentheses.

The Associative (grouping) Property of Multiplication says that you can change the grouping of the factors, and the product will be the same.

Show three ways to find $3 \times 2 \times 4$

Commutative property

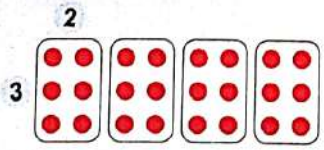
$2 \times 4 = 4 \times 2$

Bassem multiplied 3 and 2 first.

$3 \times 2 \times 4$

$= (3 \times 2) \times 4$

$= 6 \times 4 = 24$



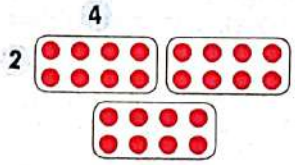
$(3 \times 2) \times 4 = 24$

Mary multiplied 2 and 4 first.

$3 \times 2 \times 4$

$= 3 \times (2 \times 4)$

$= 3 \times 8 = 24$



$3 \times (2 \times 4) = 24$

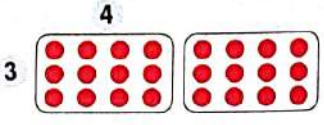
Ayman changed the order and multiplied 3 and 4 first.

$3 \times 2 \times 4$

$= 3 \times 4 \times 2$

$= (3 \times 4) \times 2$

$= 12 \times 2 = 24$



$(3 \times 4) \times 2 = 24$

Notes for parents

Connect :

- Revise with your child the concept of the area which is the number of square units needed to cover the surface of a figure. Let him/her remember that the area of a rectangle = length × width.

Remember Multiplication strategies

- Skip count by 2s , 3s , 4s and so on.
- Repeated addition.
- Use drawings or arrays.

Math tip

To find 12 × 2 you can use :

- *Repeated addition*
  12 × 2 = 12 + 12 = 24
- *Skip counting by 2s : 2 , 4, 6 , 8 , 10 , 12 , 14 , 16 , 18 , 20 , 22 , (24) .*

Check

You may need to use different strategies

Use parentheses and show three ways to find 2 X 5 X 3.

2 × 5 × 3	2 × 5 × 3	2 × 5 × 3
= (___ × ___)× ___	= _____	= _____

Practice

Write a suitable number.

(2 × 1) × 3 = 2 × (1 × _____)	(3 × 2) × 6 = _____ × (2 × 6)
(5 × 2) × 4 = (5 × _____) × 2	(4 × 3) × 1 = 4 × (_____ × 3)
(3 × 2) × 3 = (3 × 3) × _____	(5 × 1) × 6 = (_____ × 1) × 5

Match.

(3 × 2) × 4	(3 × 1) × 2	4 ×(2 × 1)
3 × (1 × 2)	3 × (4 × 2)	(4 × 1) × 2

• Help your child to find the products in this page.

Find each product. Tell another way to multiply using associative property.

4, 2, 1 ⇒

$(4 \times 2) \times 1$

$= ____ \times 1$

$= ____$

$4 \times (2 \times 1)$

$= 4 \times ____$

$= ____$

2, 3, 5 ⇒

$(3 \times 5) \times 2$

$= ____ \times 2$

$= ____$

$3 \times (5 \times 2)$

$= 3 \times ____$

$= ____$

4, 5, 2 ⇒

$(4 \times 5) \times 2$

$= ____ \times 2$

$= ____$

$4 \times (5 \times 2)$

$= 4 \times ____$

$= ____$

6, 2, 1 ⇒

$(6 \times 2) \times 1$

$= ____ \times 1$

$= ____$

$6 \times (2 \times 1)$

$= 6 \times ____$

$= ____$

3, 4, 5 ⇒

$(4 \times 5) \times 3$

$= ____ \times 3$

$= ____$

$4 \times (5 \times 3)$

$= 4 \times ____$

$= ____$

Hint : Use multiplication strategies.

Notes for parents

- Ask your child : Does $3 \times 4 \times 2$ have the same product as 6×4 ? and ask him/her to explain why.

Find the product. Write another way to group the factors.

$(3 \times 2) \times 2$

$=$ _____

$4 \times (3 \times 3)$

$=$ _____

$5 \times (2 \times 4)$

$=$ _____

Another way to solve

Use parentheses. Find the product.

Math tip

If there are no parentheses, you can choose which pair of numbers to multiply first.

$3 \times 1 \times 5$ = _____	$1 \times 2 \times 3$ = _____	$5 \times 2 \times 4$ = _____
$4 \times 3 \times 1$ = _____	$2 \times 2 \times 5$ = _____	$2 \times 1 \times 6$ = _____
$4 \times 2 \times 6$ = _____	$2 \times 3 \times 6$ = _____	$3 \times 3 \times 4$ = _____

- Let your child change the order of factors if he/she wants such as : $3 \times 2 \times 5$ can be the same as $5 \times 3 \times 2$.

Find.

- The product of 2 , 3 and 1 _____
- The product of 0 , 3 and 2 _____
- The product of 6 , 1 and 2 _____
- The product of 2 , 4 and 2 _____
- The product of 5 , 2 and 4 _____

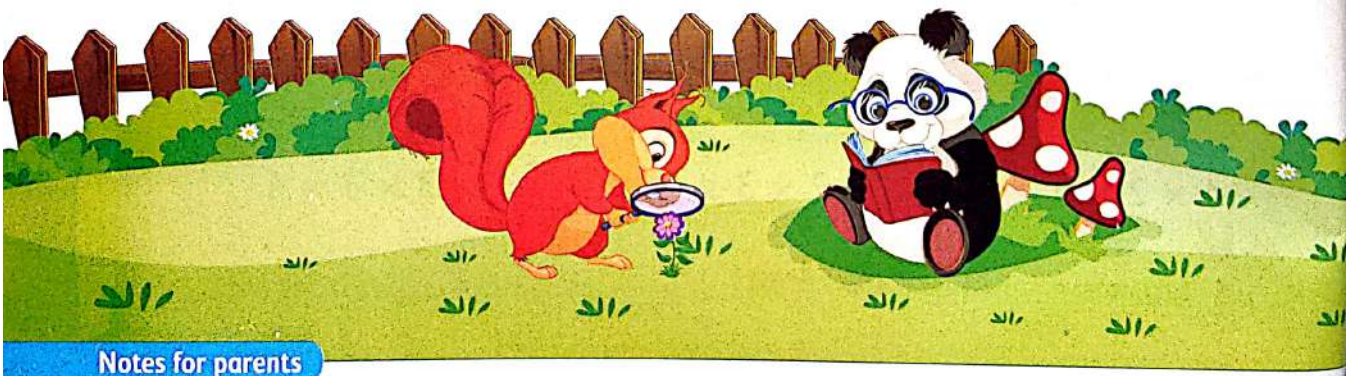
Does 9×8 have the same product as $3 \times 8 \times 3$? Explain.

_____

_____

If you know the product of $4 \times 5 \times 3$, do you also know the product of $3 \times 5 \times 4$? Explain.

_____



Notes for parents

- Ask your child, without multiplying, tell which is greater $(5 \times 6) \times 2$ or $(6 \times 2) \times 5$. Explain.
- Let him/her discover that they are the same, because factors multiplied in any order give the same product.

Challenge

- Circle the equations below that have the same values as $(8 \times 5) \times 2$.

$8 \times (5 \times 2)$	13×2	8×10	8×7

- Circle the equations below that have the same values as $5 \times (10 \times 3)$.

5×13	5×30	15×3	$(5 \times 3) \times 10$

- Two trucks arrive at the school. Each truck carries **4** boxes of footballs. Each box contains **8** footballs. How many footballs did the school get ?
  Which equations below match the story problem ? Explain.

$(2 \times 4) \times 8$	$(2 + 4) \times 8$	$2 \times (4 \times 8)$

- Bassem brought home **3** boxes filled with bags of oranges. Each box had **2** bags with **5** oranges in each. How many total oranges did Bassem bring home ?
  Write an equation and solve.

- Find each missing factor.

$2 \times 2 \times \square = 16$

$\square \times 8 \times 6 = 48$

$3 \times \square \times 3 = 18$

$3 \times 1 \times \square = 0$

Place a smiley face

- Say that "The product of $(1 \times 6) \times 4$ is less than $(6 \times 4) \times 1$" , then ask your child "Do you agree or disagree ? Explain why."

Lesson

62 Distributive property of multiplication

Learn

How can you solve multiplication problems that involve large numbers ?

- The Distributive Property states that multiplying a sum by a number is the same as multiplying each addend by the number and then adding the products.

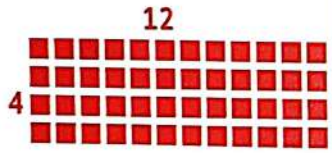
Vocabulary

Distributive property tells us we can divide "bre apart" a multiplication problem into two or more smaller problems, then ad together their products or get the final answer.

Multiply 4 × 12

Step 1

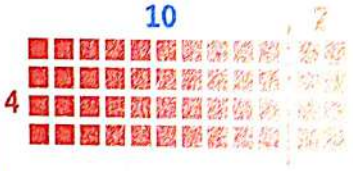
Make a model to find 4 × 12. Use square tiles to build an array.



4 × 12 = ☐

Step 2

Break apart the array to make two smaller arrays for products you know.



4 × (10 + 2)

Step 3

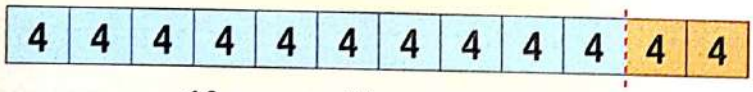
Use the Distributive Property to show the sum of two products.

(4 × 10) + (4 × 2)

40 + 8 = 48

Note that There are more than one correct way to break apart.

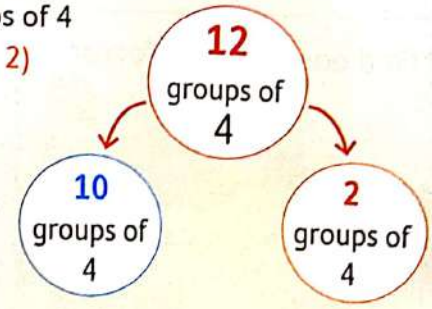
- **The following models show what happened to multiply 4 × 12 :**



10 groups of 4 (4 × 10)

2 groups of 4 (4 × 2)

$$4 \times 12 = 4 \times (10 + 2)$$
$$= (4 \times 10) + (4 \times 2)$$
$$= 40 + 8$$
$$= 48$$



Notes for parents

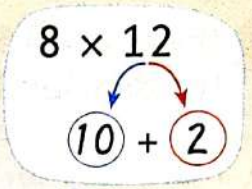
Connect :

- Ask your child to find the result of each of the following problems :
  (4 × 2) × 8 , (4 + 2) × 8 , (2 × 4) × 8, then ask him/her which results are equal ? and why ?

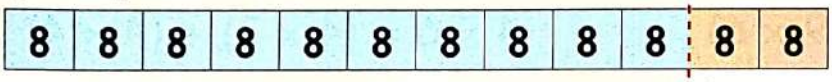
Another example : Use the properties and mental math to multiply 8×12.

- $8 \times 12 = 8 \times (10 + 2)$
  $= (8 \times 10) + (8 \times 2)$
  $= 80 + 16$
  $= 96$

Think : 12 = 10 + 2
Distributive property



- **By using bar model**



10 groups of 8 (8×10)

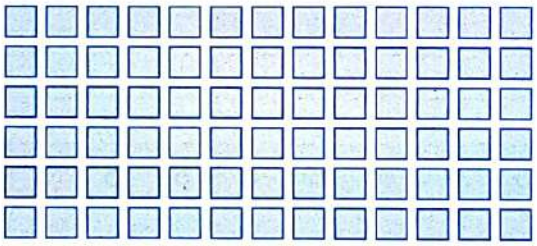
2 groups of 8 (8×2)

$8 \times 12 = 8 \times 10 + 8 \times 2$
$= 80 + 16 = 96$

Check

Answers may vary

Multiply 6 × 13



Break apart the array

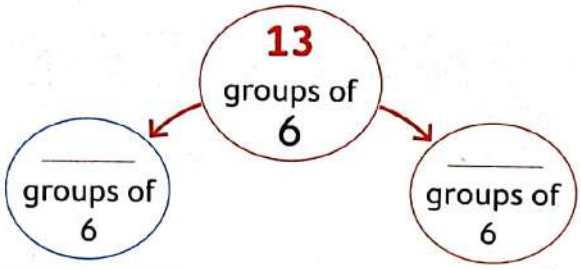
$6 \times 13 = 6 \times (____ + ____)$
$= (6 \times ____) + (6 \times ____)$
$= ____ + ____$
$= ____$

Break apart the bar model

6	6	6	6	6	6	6	6	6	6	6	6	6

Complete the model.

$6 \times 13 = 6 \times ____ + 6 \times ____$
$= ____ + ____$
$= ____$



- Ask your child to show 7 × 11 using array and bar model and find the product.

Practice

You may need to draw arrays

Break apart the following bar models according to the distributive property equations.

6	6	6	6	6	6	6	6

$6 \times 8 = (6 \times 2) + (6 \times 6)$

12	12	12	12	12	12	12	12	12

$12 \times 9 = (12 \times 4) + (12 \times 5)$

9	9	9	9	9	9	9

$9 \times 7 = (9 \times 1) + (9 \times 6)$

4	4	4	4	4	4

$4 \times 6 = (4 \times 2) + (4 \times 4)$

7	7	7	7	7	7

$7 \times 6 = (7 \times 3) + (7 \times 3)$

8	8	8	8	8	8	8	8

$8 \times 8 = (8 \times 3) + (8 \times 5)$

Write the distributive property equations of each.

7	7	7	7	7	7	7	7

$7 \times ____ = ____ \times (____ + ____)$

$= (____ \times ____) + (____ \times ____)$

5	5	5	5	5

$____ \times ____ = ____ \times (____ + ____)$

$= (____ \times ____) + (____ \times ____)$

11	11	11	11	11	11

$____ \times ____ = ____ \times (____ + ____)$

$= (____ \times ____) + (____ \times ____)$

8	8	8	8	8	8	8	8	8

$____ \times ____ = ____ \times (____ + ____)$

$= (____ \times ____) + (____ \times ____)$

6	6	6	6	6	6	6	6	6	6	6	6	6	6

$____ \times ____ = ____ \times (____ + ____)$

$= (____ \times ____) + (____ \times ____)$

Notes for parents

- Ask your child to draw these bar models in a blank paper and find another different way to break them apart.

Break apart the following bar models. Use the distributive property to complete the equations and find the product.

Ways may vary

6	6	6	6	6	6	6	6	6

____ × ____ = ____ × (____ + ____)

= (____ × ____) + (____ × ____)

= _____ + _____

= _____

8	8	8	8	8	8

____ × ____ = ____ × (____ + ____)

= (____ × ____) + (____ × ____)

= _____ + _____

= _____

9	9	9	9	9	9	9

____ × ____ = ____ × (____ + ____)

= (____ × ____) + (____ × ____)

= _____ + _____

= _____

5	5	5	5	5	5	5	5

____ × ____ = ____ × (____ + ____)

= (____ × ____) + (____ × ____)

= _____ + _____

= _____

8	8	8	8	8	8	8	8	8	8	8	8	8	8	8

____ × ____ = ____ × (____ + ____)

= (____ × ____) + (____ × ____)

= _____ + _____

= _____

• Discuss with your child each problem in this page and find another different way to break apart.

Make two models and use the distributive property to find the product.

Ways may vary

9 × 7

First way

$9 \times 7 = 9 \times (____ + ____)$

$= (9 \times ____) + (9 \times ____)$

$= ____ + ____$

$= ____$

Second way

$9 \times 7 = 9 \times (____ + ____)$

$= (9 \times ____) + (9 \times ____)$

$= ____ + ____$

$= ____$

8 × 11

First way

$8 \times 11 = 8 \times (____ + ____)$

$= (8 \times ____) + (8 \times ____)$

$= ____ + ____$

$= ____$

Second way

$8 \times 11 = 8 \times (____ + ____)$

$= (8 \times ____) + (8 \times ____)$

$= ____ + ____$

$= ____$

13 × 9

First way

$13 \times 9 = ____$

$= ____$

$= ____$

$= ____$

Second way

$13 \times 9 = ____$

$= ____$

$= ____$

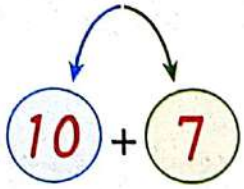
$= ____$

Notes for parents

- Ask your child to find the product of 10×15 using modeling by bar model with two different ways.

Complete the following. The first one is done for you.

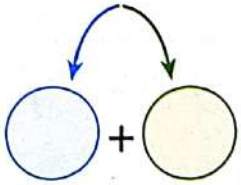
5×17



$= (\ 5\ \times\ 10\ ) + (\ 5\ \times\ 7\ )$

$= \ 50\ + \ 35\ = \ 85\ $

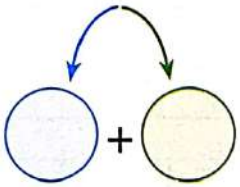
8×12



$= (\ ____\ \times\ ____\ ) + (\ ____\ \times\ ____\ )$

$= \ _____\ + \ _____\ = \ _____$

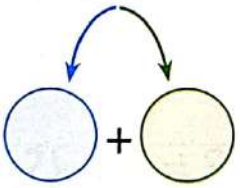
7×14



$= (\ ____\ \times\ ____\ ) + (\ ____\ \times\ ____\ )$

$= \ _____\ + \ _____\ = \ _____$

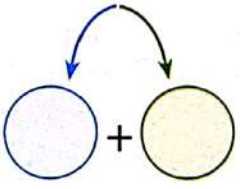
3×16



$= (\ ____\ \times\ ____\ ) + (\ ____\ \times\ ____\ )$

$= \ _____\ + \ _____\ = \ _____$

6×15



$= (\ ____\ \times\ ____\ ) + (\ ____\ \times\ ____\ )$

$= \ _____\ + \ _____\ = \ _____$

• Ask your child to find another way to break apart 5×17.

Use the distributive property to complete the following equations and find the product.

Answers may vary

$7 \times 8 = __ \times (4 + __)$

$= (7 \times 4) + (__ \times __)$

$= __ + __ = __$

$9 \times 6 = __ \times (__ + 1)$

$= (__ \times __) + (__ \times 1)$

$= __ + __ = __$

$10 \times 12 = 10 \times (__ + __)$

$= (__ \times __) + (10 \times __)$

$= __ + __ = __$

$8 \times 9 = __ \times (__ + __)$

$= (__ \times __) + (__ \times __)$

$= __ + __ = __$

$13 \times 2 = __ \times (__ + __)$

$= (__ \times __) + (__ \times __)$

$= __ + __ = __$

$5 \times 14 = 5 \times (__ + __)$

$= (__ \times __) + (__ \times __)$

$= __ + __ = __$

$17 \times 3 = __ \times (__ + __)$

$= (__ \times __) + (__ \times __)$

$= __ + __ = __$

$4 \times 16 = __ \times (__ + __)$

$= (__ \times __) + (__ \times __)$

$= __ + __ = __$

Notes for parents

- Ask your child to find the product of 9×12 using the distributive property of multiplication.

Challenge

- Draw ☺ if the sentence is true, and draw ☹ if it is wrong. Explain, then correct the mistakes.

Draw

3 × 5 = (3 × 2) + (3 × 5)

_____

_____

2 × 8 = (2 × 6) + (2 × 2)

_____

_____

4 × 11 = (4 × 10) + 4

_____

_____

12 × 5 = (5 × 5) + (5 × 5)

_____

_____

(9 × 2) × 5 = 9 × 10

_____

_____

4 × (10 × 3) = 4 × 13

_____

- Help your child to talk about his/her thinking and correct the mistakes.

Place a smiley face

Lesson

63 Estimate products

Learn

Vocabulary
An estimation tells about how many not the actual value.

- Estimation does not give the exact answer but gives a closer answer.
- **Estimate the answer and show your thinking.**
  There are 7 boxes , each box contains 6 balls.
  How many balls are there in all ?

The actual problem is **7 x 6**

Nada knows that

5 x 5 = 25

So, she said that the product must be greater than **25**

Yasser supposed 6 as 5 and multiplied them

7 x 5 = 35

So, he said that the product should be a little more than **35**

Amira supposed 8 as 10 and multiplied them

10 x 6 = 60

So, she said that the actual product must be less than **60**

- The actual product is **42** ,
  Yasser gives the closest estimation and it is acceptable estimation.

Check

Give an estimation to the following problem using any strategy. Find the actual product. Check if your estimation is close enough.

Estimation	6×8	Actual product

Notes for parents

Connect :

- Train your child to use associative and distributive properties to find the product. Give him/her problems as : Find 12×8 , 9×14 and $2 \times 5 \times 4$.

Practice

Estimate the answer of the following problems and use your thinking for how you found that estimate , then solve each problem using any strategy or property that helps you.

Estimation	9×3	Actual product

Estimation	8×4	Actual product

Estimation	6×9	Actual product

- Ask your child to find another estimation for each problem and ask him if his/her estimation is closer to the actual product or not.

Estimate the answer , then solve each problem. The first one is done for you.

Estimation | **$4 \times 6 \times 5$** | **Actual product**

Suppose 4 as 5, use associative property.

$(5 \times 6) \times 5$

$= 30 \times 5 = 150$

The answer must be less than 150

$4 \times (6 \times 5)$ *Associative property*

$= 4 \times 30$

$= 120$

Estimation | **$3 \times 7 \times 2$** | **Actual product**

Estimation | **$8 \times 5 \times 4$** | **Actual product**

Estimation | **$2 \times 6 \times 9$** | **Actual product**

Notes for parents

- Remind your child to use the associative property in its different ways to estimate and finding the actual product.

Estimate the answer , then solve each problem. The first one is done for you.

Estimation | **9 × 13** | **Actual product**

Suppose 9 as 10

10 × 13

= 130

The actual product must be less than 130

Suppose 13 as 10

9 × 10

= 90

The actual product must be more than 90

9 × 13 = 9 × (10 + 3) Distributive property

= (9 × 10) + (9 × 3)

= 90 + 27

= 117

Estimation | **18 × 3** | **Actual product**

Estimation | **15 × 8** | **Actual product**

Estimation | **9 × 12** | **Actual product**

- Let your child compare his/her estimation and actual product of each problem and determine if it is acceptable or not.

Write the equation you are trying to solve in each problem. Estimate the answer , solve each problem using any strategy or property that helps you.

- How many legs are there in 8 horses ?

The problem equation = _____

Estimation	Actual product

- Sami runs 15 minutes every day. How many minutes does Sami run in 7 days ?

The problem equation = _____

Estimation	Actual product

Challenge

- Sama had 8 bags , in each bag there were 3 dolls and each doll had 5 buttons on its shirt. How many total buttons were there in all ?

The problem equation = _____

Estimation	Actual product

Notes for parents

- Let your child mention each property he/she used to solve each problem and find the estimation.

Place a smiley face

Lessons

64&65

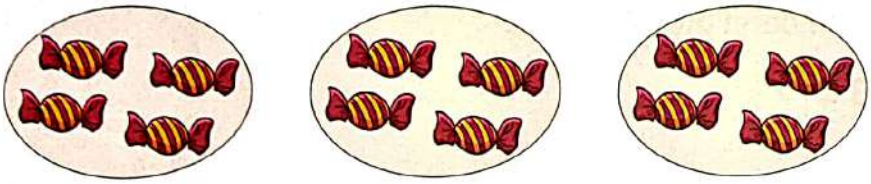
The relation between multiplication and division

Pre-study Division

Vocabulary
Divide
separate some things into equal groups.

- To share things equally, you can divide.
- 12 sweets are divided among 3 children.
  How many sweets does each child get ?

Separate 12 sweets into 3 equal groups.

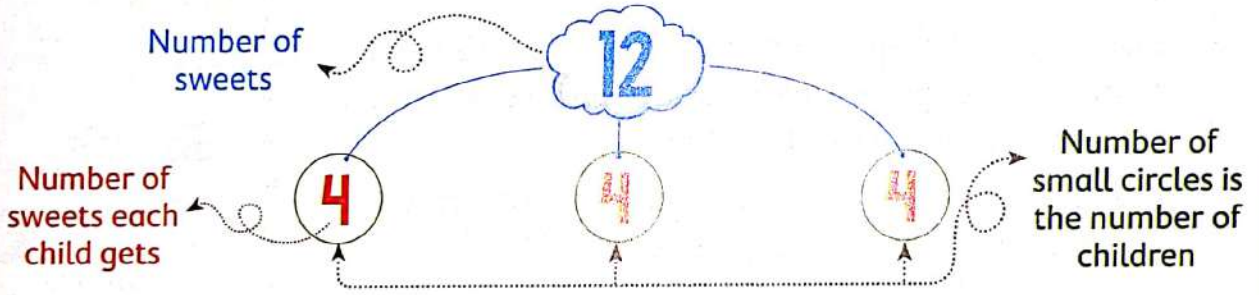


Hint :
Use skip count by 3s to get 12.
3 , 6 , 9 , (12)
You skiped 4 times.

Each child gets 4 sweets.

The division sentence : 12 ÷ 3 = 4

- **By representing the problem with part - part - whole model.**

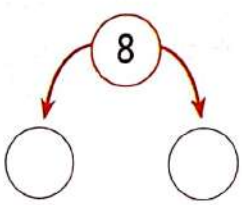


Check

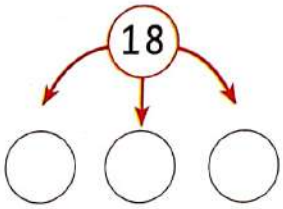
You may use skip count

Divide. Fill in the part-part-whole model.

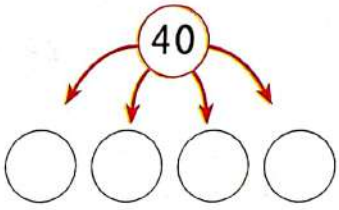
8 ÷ 2 = ☐



18 ÷ 3 = ☐



40 ÷ 4 = ☐



Connect :

- Let your child remember how he/she tell the time using an analog clock. Let him/her estimate the time to the nearest five minutes.

Learn

The relation between multiplication and division

Vocabulary

Product
the answer to a multiplication problem.

Quotient
the answer to a division problem.

Fact family
a set of related facts.

Inverse operation
operation that undo each other (addition - subtracti & (multiplication - division

- The band played 5 songs during the halftime of the football game. Each song was 3 minutes long. How long did the band play ?

Equation : $5 \times 3 = \boxed{?}$

Think : $5 \times 3 = 15$

○ **So,** the band played for 15 minutes.

- The band played for 15 minutes at another football game. Each song was 3 minutes long. How many songs did the band play ?

Equation : $15 \div 3 = \boxed{?}$

Think :

$5 \times 3 = 15$ (5 : factor, 3 : factor, 15 : product)

So, $15 \div 3 = 5$ (15 : dividend, 3 : divisor, 5 : quotient)

○ **So,** the band played **5** songs.

MATH IDEA Multiplication and division by the same number are opposite operations, or inverse operations. One operation undoes the other.

○ A set of related multiplication and division equations using the same numbers is a fact family.

$5 \times 3 = 15$	$15 \div 3 = 5$
$3 \times 5 = 15$	$15 \div 5 = 3$

→ Fact family for 3 , 5 , 15

Check

Explain how you can use multiplication to find.

$24 \div 4$

$30 \div 5$

Notes for parents

- Ask your child to write the fact family of : 2 , 3 , 6 and 4 , 7 , 28.

Practice

Fill in the missing numbers of the following problems. Complete the fact family for each.

5 × 4 = 20	3 × 7 = ____	1 × ____ = 13
____ × 5 = 20	7 × 3 = ____	____ × 1 = 13
20 ÷ 5 = ____	____ ÷ 7 = 3	13 ÷ ____ = 1
20 ÷ ____ = 5	____ ÷ 3 = 7	13 ÷ 1 = ____
9 × ____ = 18	____ × 6 = 24	____ × 10 = 80
____ × 9 = 18	6 × ____ = 24	10 × ____ = 80
18 ÷ ____ = 9	24 ÷ 6 = ____	80 ÷ ____ = 10
18 ÷ 9 = ____	24 ÷ ____ = 6	80 ÷ 10 = ____

Find the product of each of the following. Write the other multiplication equation.

2 × 4 = ____	3 × 9 = ____	4 × 8 = ____
____ × ____ = ____	____ × ____ = ____	____ × ____ = ____
5 × 3 = ____	6 × 2 = ____	9 × 7 = ____
____ × ____ = ____	____ × ____ = ____	____ × ____ = ____

• Ask your child to tell you what is the relation between multplication and division.

Find the quotient of each of the following. Write the other division equation.

16 ÷ 2 = ___ ___ ÷ ___ = ___	50 ÷ 5 = ___ ___ ÷ ___ = ___	28 ÷ 4 = ___ ___ ÷ ___ = ___
40 ÷ 8 = ___ ___ ÷ ___ = ___	36 ÷ 9 = ___ ___ ÷ ___ = ___	42 ÷ 7 = ___ ___ ÷ ___ = ___

Complete the missing numbers in each of the following.

5 × ___ = 10 10 ÷ 5 = ___	7 × ___ = 28 28 ÷ 7 = ___	9 × ___ = 81 81 ÷ 9 = ___
3 × ___ = 18 18 ÷ ___ = 3	6 × ___ = 42 42 ÷ ___ = 6	10 × ___ = 80 80 ÷ ___ = 10
___ × 7 = 14 14 ÷ 7 = ___	___ × 3 = 3 3 ÷ 3 = ___	___ × 6 = 54 54 ÷ 6 = ___
___ × 5 = 30 30 ÷ ___ = 5	___ × 7 = 49 49 ÷ ___ = 7	___ × 2 = 16 16 ÷ ___ = 2

Notes for parents

- Ask your child to explain how can we use the relation between multiplication and division to solve multiplication and division problems.

Complete the missing numbers in each of the following.

8 ÷ 2 = ____ 2 × ____ = 8	40 ÷ 5 = ____ 5 × ____ = 40	56 ÷ 7 = ____ 7 × ____ = 56
27 ÷ ____ = 3 3 × ____ = 27	16 ÷ ____ = 4 4 × ____ = 16	72 ÷ ____ = 8 8 × ____ = 72
36 ÷ 9 = ____ 36 ÷ ____ = 9	20 ÷ 2 = ____ 20 ÷ ____ = 2	18 ÷ ____ = 3 18 ÷ 3 = ____
____ ÷ 8 = 6 8 × 6 = ____	____ ÷ 7 = 5 7 × 5 = ____	____ ÷ 6 = 4 4 × 6 = ____

Choose the correct answer.

____ ÷ 8 = 10 ◯ 80 ◯ 2	2 × ____ = 18 ◯ 16 ◯ 9	63 ÷ ____ = 9 ◯ 8 ◯ 7
____ ÷ 11 = 6 ◯ 66 ◯ 17	15 ÷ 3 = ____ ◯ 5 ◯ 12	____ × 5 = 45 ◯ 9 ◯ 8
16 ÷ ____ = 4 ◯ 4 ◯ 2	____ ÷ 7 = 3 ◯ 21 ◯ 10	____ × 8 = 56 ◯ 14 ◯ 7

• Ask your child to say the other fact families for the problems in this page.

Fill in the missing numbers, then draw lines to connect the equations that are related.

___ × 7 = 49	___ ÷ 4 = 8
12 × ___ = 24	30 ÷ ___ = 6
3 × ___ = 18	49 ÷ 7 = ___
___ × 6 = 30	24 ÷ ___ = 12
4 × 8 = ___	18 ÷ 3 = ___

Solve the following problems using an efficient strategy for you.

Problem	Work area	Answer
56 ÷ ___ = 8		
___ × 3 = 24		
28 ÷ 4 = ___		

Notes for parents

- Ask your child to say the other fact family for each problem in this page.

Write the related equation and solve it.

Problem	Work area	Answer
Karim picked 60 oranges. He put them equally into 6 buckets. How many oranges were in each bucket ? **Equation :** _____		
Maria needs 8 handfull of nuts to make 1 batch of cookies. How many handfull of nuts will she need to make 4 batches of cookies ? **Equation :** _____		
There are 49 students going on a field trip to the pyramids. Each van can hold 7 students. How many vans are needed ? **Equation :** _____		
Bassem bought 3 bottles of milk. He paid 36 pounds. What is the price of one bottle of milk ? **Equation :** _____		

- Let your child choose any strategy of what he/she has learned such as :
Draw an array skip, count by one, the factors, use 120 chart, make a bar-model, part-part-whole model, use fact family and use a property of multiplication.

Problem	Work area	Answer
There are 28 pupils in the class. The teacher wanted to distribute them into 4 groups. How many pupils are in each group ? **Equation :** _____		
Ahmed bought 3 books of 15 pounds for each. How much money did Ahmed pay ? **Equation :** _____		
There are 2 tables, each with 3 tanks with 5 fish in each tank. How many fish are there in all ? **Equation :** _____		

Challenge

- Pick one of the following problems and write a story problem using those numbers, then solve it.

28 ÷ 2 = ___ | 15 × ___ = 45 | 2 × 5 × 7 = ___

Notes for parents

- Let your child to use another strategy to check his/her answer in the problems in this page.

Place a smiley face

Lesson

66 Application on multiplication and division (Perimeter)

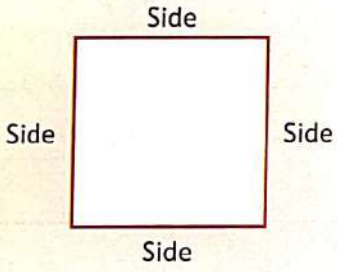
Learn Finding the perimeter

Vocabulary
Perimeter
liner measurement of the distance around the shape.

Square

It has :

- 4 equal sides in length
- 4 vertices



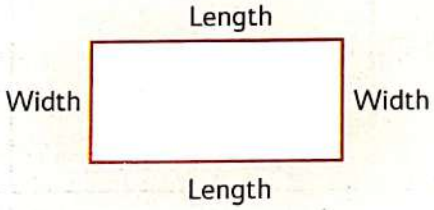
Perimeter = side + side + side + side

= 4 × side

Rectangle

It has :

- 4 sides "2 short parallel with the same length - 2 long parallel with the same length"
- 4 vertices

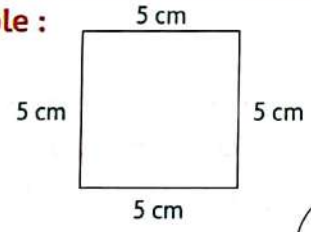


Perimeter = length + width + length + width

= 2 × length + 2 × width

= 2 × (length + width)

Example :

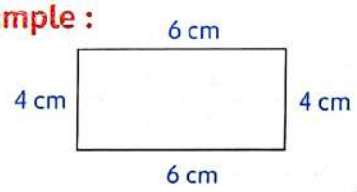


Perimeter = 4 × 5

= 20 cm

Add all the sides to check

Example :



Perimeter = 2 × (6 + 4)

= 2 × 10 = 20 cm

Add all the sides to check

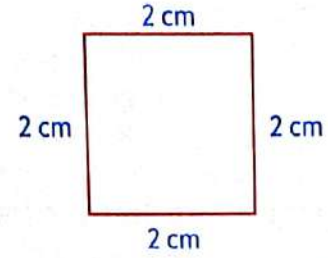
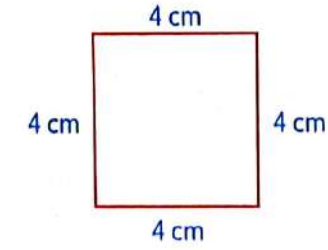
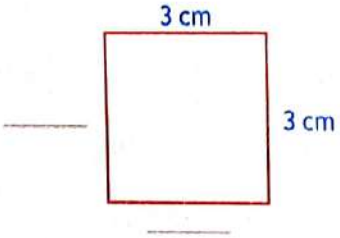
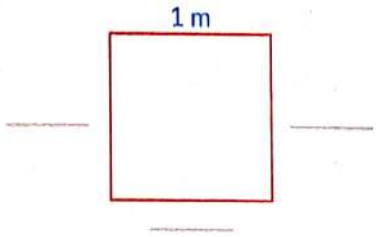
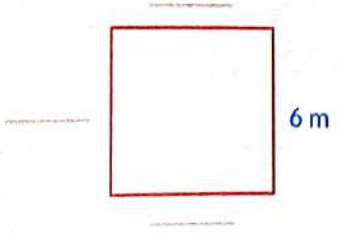
Connect :

- Remind your child with the properties of each of square and rectangle to be able to calculate their perimeters.

Practice

Find the perimeter of each square.

Hint :
The drawns are not to scale.

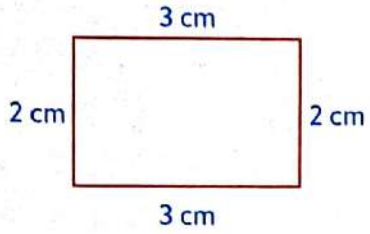
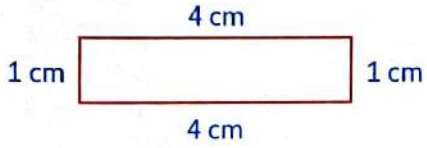
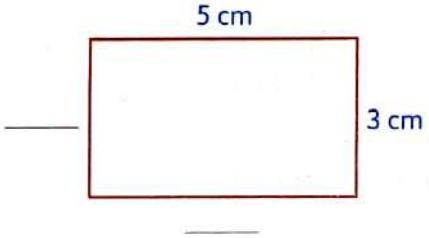
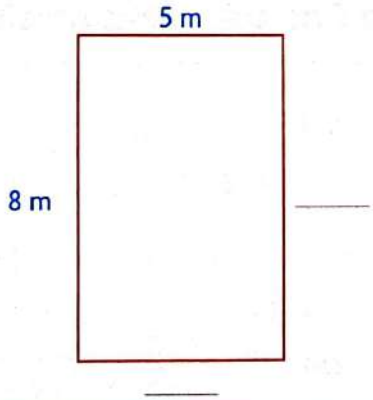
Square	Perimeter
	
	
	
	
	

Notes for parents

- Help your child to draw a square with side length of 7 cm and ask him/her to find the perimeter of it.

Find the perimeter of each rectangle.

Hint :
The drawns are not to scale.

Rectangle	Perimeter
	
	
	
	

- Help your child to draw a rectangle with length 6 cm and width 4 cm and ask him/her to find the perimeter of it.

Learn Finding the unknown length given the perimeter

Example ❶

Find the side length of the square which its perimeter is 20 cm.

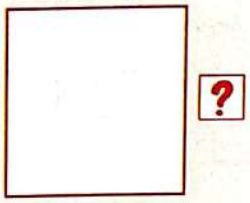
Answer

Where perimeter = 20 cm

So, $4 \times \boxed{?} = 20$

Think : $20 \div 4 = 5$

Then , the side length = 5 cm



Perimeter = 20 cm

Example ❷

Find the length of the rectangle which its width is 2 cm and its perimeter is 12 cm.

Answer

Where perimeter = 12 cm

So, $2 \times$ (length + width) $= 12$

Then : $2 \times \boxed{?} = 12$

Think : $12 \div 2 = 6$

Then, length + width = 6

$\boxed{?} + 2 = 6$

Think : $6 - 2 = 4$

Then , the length = 4 cm

Perimeter = 12 cm

Check

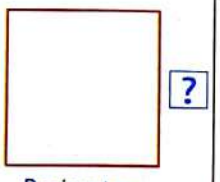
Use the information in each of the following to find the unknown side.

Perimeter = _____ cm

4 × ? = _____

_____ ÷ 4 = _____

The side length = _____ cm



Perimeter = 24 cm

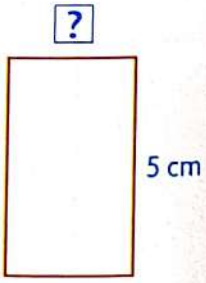
Perimeter = _____ cm

length + width = _____ ÷ 2

= _____

width = _____ – _____ = _____

The width = _____ cm



Perimeter = 16 cm

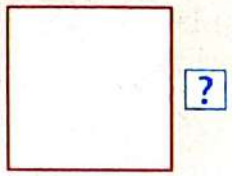
Notes for parents

- Help your child to use multiplication and division to find the unknown length or width in each problem.

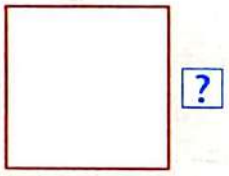
Practice

Find the unknown side using the perimeter.

Work area



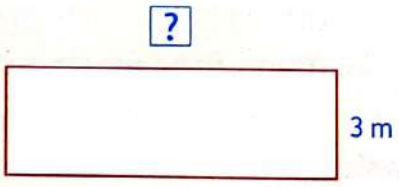
Perimeter = 28 cm



Perimeter = 40 m

6 cm

Perimeter = 18 cm



Perimeter = 24 m

7 km

Perimeter = 20 km

- Ask your child to explain how to find the area of each shape in this page and let him/her point to 3 shapes.

Choose the correct answer.

You may need to draw square

- The perimeter of the square whose side length is 6 cm = ——— cm

  ◯ 6 ◯ 12 ◯ 24 ◯ 36

- The perimeter of the square whose side length is 5 m = ——— m

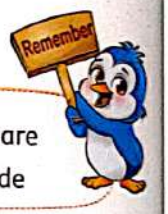
  ◯ 10 ◯ 20 ◯ 50 ◯ 100

- The side length of the square whose perimeter is 12 cm = ——— cm

  ◯ 10 ◯ 8 ◯ 4 ◯ 3

- The side length of the square whose perimeter is 32 units = ——— units

  ◯ 16 ◯ 8 ◯ 4 ◯ 12



Area of square = side × side

Read each story. Solve the problem.

Bassem is building a fence for his garden which is shaped as square.
The side length of the garden is 8 meters.
How many meters of fencing will Bassem need ?

Calculate the area of the garden.

Sandy built a fence for her garden which shaped like a square. She used 28 meters.
What is the side length for Sandy's garden ?

Calculate the area of the garden.

Work area

Challenge

Calculate the side length of a square which its area is 49 square cm.

Notes for parents

- Ask your child to read the problem twice to understand it and plan what he/she will do to solve it and what strategy will used.

Choose the correct answer.

You may need to draw rectangle

- The perimeter of the rectangle whose length is 5 cm and width is 3 cm equals ——— cm.

  ◯ 8 ◯ 15 ◯ 16 ◯ 20

- The perimeter of the rectangle whose length is 9 cm and width is 7 cm equals ——— cm.

  ◯ 2 ◯ 16 ◯ 63 ◯ 32

- The length of the rectangle whose width is 2 cm and perimeter is 10 cm equals ——— cm.

  ◯ 8 ◯ 6 ◯ 5 ◯ 3

- The width of the rectangle whose length is 5 cm and perimeter is 16 cm equals ——— cm.

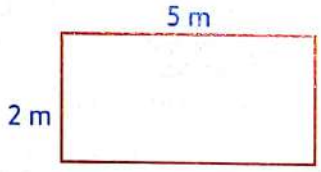
  ◯ 9 ◯ 3 ◯ 8 ◯ 21

- The length of the rectangle whose width is 4 m and perimeter is 22 m equals ——— m.

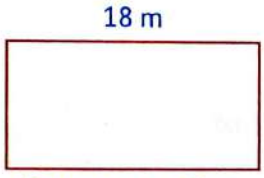
  ◯ 18 ◯ 14 ◯ 7 ◯ 9

Read each story. Solve the problem.

Hani is building a fence for his garden which is shaped like a rectangle.
The length of the garden is 5 meters and the width of the garden is 2 meters.
How many meters of fencing will Hani need ?



Karma built a fence for her rectangular garden.
If she used 48 meters of fencing and want her garden to be 18 meters long.
How wide can she make her garden ?



Work area

- Ask your child to tell a perimeter story problem which contains an unknown number and solve it.

Place a smiley face

Lessons
67 to 70 Multistep problems

Learn

Vocabulary

Multistep problem problem that involv more than one operation.

How do you find hidden question in multistep problems ?

Some word problems have hidden question or questions that must be answered before you can solve the problem. You have to determine what operation to use and what strategies will you use to help you figure out how to solve the problem.

Example 1

Dina bought 3 packs of crayons. Each pack contains 12 crayons. If she gave her friend 6 crayons of them.

How many crayons are left ?

First Way Using multiplication and subtraction operations

➲ **Find the hidden question:**

How many crayons did Dina buy ?

3 packs $\times$ 12 crayons $=$ 36 crayons

Dina bought **36** crayons in all.

- Use distributive property

$3 \times 12 = (3 \times 10) + (3 \times 2)$

$= 30 + 6$

$(10 + 2) = 36$

- Repeated addition

$3 \times 12 = 12 + 12 + 12 = 36$

➲ **Solve the problem:**

How many crayons are left ?

36 all crayons $-$ 6 given crayons to friend $=$ 30 crayons

Short way to solve

$(3 \times 12) - 6 = 36 - 6 = 30$

The left crayons are **30** crayons.

Notes for parents

Connect : Revise with your child :

- The concept of mass and its units.
- How he/she find a missing factor in a problem as : $(3 \times 2) \times$ ——— $= 36$
- How he/she set his/her analog clock as a time giv

Another Way Using addition and subtraction operations

Dina bought 3 packs of 12 crayons

$$12 + 12 + 12 = 36$$

She gave 6 to her friend

$$36 - 6 = 30$$

The left crayons are **30** crayons.

Short way to solve

$(12 + 12 + 12) - 6$
$= 36 - 6 = 30$

Example 2

Mr. Samir distributed 28 sheets of paper equally among 7 children in the first time.

If he gave 2 more sheets for each child.

How many sheets did each child get in all ?

Answer Using division and addition operations

➲ **Find the hidden question:**

How many sheets did each child get in the first time ?

28	÷	7	=	4
sheets		children		sheets

Each child got **4** sheets in the first time.

Short way to solve

$(28 \div 7) + 2 = 4 + 2 = 6$

➲ **Solve the problem:**

How many sheets did each child get in all ?

4	+	2	=	6
sheets		more sheets		in all

Each child got **6** sheets in all.

- Tell your child that multistep problem needs to know what information do you have to help you solve the problem.

Example 3

Sara had 29 L.E. If she saved 15 L.E. and distributed the rest equally between her two sisters.

How much money will each sister have ?

Answer **Using subtraction and division operations**

➲ **Find the hidden question:**

How much money are left after Sara saved 15 L.E. of them ?

Short way to solve

$(29 - 15) \div 2$
$= 14 \div 2$
$= 7$

$$\underset{\text{in all}}{29\ \text{L.E.}} - \underset{\text{are saved}}{15\ \text{L.E.}} = \underset{\text{left L.E.}}{14\ \text{L.E.}}$$

Sara distributed **14** L.E. between her two sisters.

➲ **Solve the problem:**

How much money will each sister have ?

$$\underset{\text{left L.E.}}{14\ \text{L.E.}} \div \underset{\text{sisters}}{2} = 7\ \text{L.E.}$$

Each sister will have 7 L.E.

Example 4

Bassem bought 5 pencils for 3 pounds each and 6 pens for 4 pounds.

How much money did Bassem pay for all ?

Answer **Using multiplication and addition operations**

➲ **Find the hidden questions:**

What is the price of 5 pencils ?

There are 2 hidden questions in this word problem.

$$\underset{\text{pencils}}{5} \times \underset{\text{pounds}}{3} = \underset{\text{pounds}}{15}$$

The price of **5** pencils is **15** pounds.

Notes for parents

- Let your child guess the other hidden question in example 4.

What is the price of 6 pens ?

6	×	4	=	24
pens		pounds		pounds

The price of **6** pens is **24** pounds.

Solve the problem:

How much money did Bassem pay for all ?

15	+	24	=	39
pounds for pencils		pounds for pens		pounds in all

Bassem paid **39** pounds in all.

Short way to solve

$(5 \times 3) + (6 \times 4)$
$= 15 + 24$
$= 39$

Check

Write and answer the hidden question. Then solve the problem.

Youssef has a box containing 24 balls. The box includes an equal number of red, green and yellow balls. He gave all red balls to his friends.

How many green and yellow balls are left ?

Find the hidden question	Solve the problem

• Help your child to write the hidden question and solve the problem.

Practice

For the following problems, use the price list. Think and answer the hidden question. Then solve the problem.

- Maged ordered 3 pizza slices and 1 juice.

How much money will he pay ?

_____

_____

_____

- Amira ordered 2 hamburgers and 1 cake.

How much money will she pay ?

_____

_____

_____

- Laila ordered 3 juice and 3 cakes.

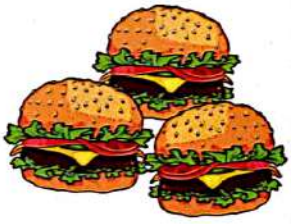
How much money will she pay ?

_____

_____

_____

- Hossam bought 3 hamburgers and paid 20 pounds.



How much change will he get back ?

_____

_____

Snack Bar Prices

Pizza slice ..... 3 L.E

Hamburger ..... 5 L.E

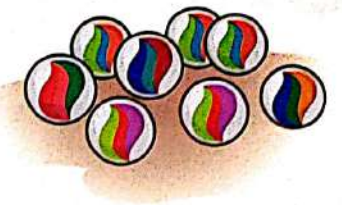
Juice ..... 1 L.E

Cake ..... 2 L.E

Notes for parents

- Let your child discover and solve the hidden question and ask him/her if he/she could solve the problem using the short way.

Hisham had 4 bags of marbles. Each bag contained 9 marbles. He also had 18 marbles that were not in a bag.



How many marbles did Hisham have in all ?

Yousra had 17 meters of cloth. She made 3 dresses of the same size and 8 meters of cloths were left.

How many meters of cloth did each dress take ?

Adam saved 20 L.E. per week for 4 weeks.
In the fifth week, he only saved 10 L.E.

How much money did Adam save in 5 weeks ?

- Help your child to read and understand to figure out each problem and use the information to decide which operation to use.

Amin buys 15 seeds. He needs to distribute them in 7 pots to plant 4 seeds in each pot.

How many more seeds Amin will need ?

Each day for a week, Salma eats 7 crackers for a snack. The next week she ate 60 crackers.

How many more crackers did Salma eat in the next week than the first week ?

Mr. Yassin had 52 pieces of fruit. He took 4 pieces for him and distributed the rest equally among 8 children.

How many pieces of fruit does each child get ?

Notes for parents

- Let your child tell you a multistep problem and help him/her to solve it.

Read the story problems and the students' solutions. Figure out what the student did wrong and then correctly solve the problem. Be sure to show your work. The first one is done for your.

- **Amina's family** went on a three-days road trip. On the first day, they drove **240** kilometers. On the second day, they drove **123** kilometers. On the third day, they drove **215** kilometers. Last year on their road trip, they drove a total of **428** kilometers.

How many more kilometers did they drive on this trip ?

Amina's family drove 240 km, 123 km, and 215 km on this road trip. I added those numbers together and then added to the 428 km they drove on his last three-days road trip. Amina's family drove 1,006 km in all.

What did the student do wrong ?	Correctly solve the problem and show your thinking.
The wrong step is adding the total to 428 km.	*240 + 123 + 215 = 578 km* *Amina's family drove 578 km for three days.* *578 - 428 = 150 km* *Amina's family drove 150 km more than the last year road trip.*

- **Rami** had **5** bags of candy. Each bag contained 6 pieces of candy. He also had **13** pieces of candy that were not in a bag.

How much candies did Rami have in all ?

Rami had 17 pieces of candy in all. First, I figured out what he had in the bags, and then I took away what he had that was not in the bag.

What did the student do wrong ? Why do you think the student made this error ?	Correctly solve the problem and show your thinking.

- Tell your child that correcting mistakes help us : persevere in solving problems, make sence of problems and problem solving strategies, be precise with our work and confirm or correct our understanding.

- **Mrs. Suzan** baked **54** chocolate chip cookies. She divided the cookies equally into **6** containers. Then, she baked more cookies so that she could put **6** more cookies in each container.

How many cookies are in each container ?

There are 10 cookies in each container (9 cookies from the first batch she made and 1 cookie from the second batch she made).

What did the student do wrong ? Why do you think the student made this error ?	Correctly solve the problem and show your thinking.

- **Osama** earned money for completing extra chores. He earned **10** L.E. per hour cleaning the bedrooms. He worked for 4 hours. He also earned an extra **25** L.E. for vacuuming the entire house.

How much money did Osama earn ?

Osama earned 35 L.E. by completing the chores. He earned 10 L.E. cleaning the bedrooms and then 25 L.E. for vacuuming.

What did the student do wrong ? Why do you think the student made this error ?	Correctly solve the problem and show your thinking.

Notes for parents

- Help your child to discover the mistake in each problem' answer and correct it.

Read and solve each problem. Show your work.

- A farm has 350 animals. There are 195 cows. The rest of animals are sheep.

  How many more cows are there than sheep ?

Work area

- There are 30 young puppies and 26 adult puppies. The puppies are placed equally into 7 areas.

  How many puppies are in each area ?

Work area

Write and solve a multistep problem in the box and solve it.

- Tell your child a multistep problem and ask him/her to solve it , then let him/her tell you a multistep problem and solve it together.

Place a smiley face

Activity

Chapter 1

Secret Message

DECODER			
4,5	A	4,6	G
6,7	R	2,6	W
3,8	M	2,9	N
4,9	E	3,6	I
5,7	X	3,7	S
3,9	H	2,4	T

Use the Decoder to help Adham solve the secret message. Match the symbol to the correct factor pair and letter in the Decoder.

✓♥△□ ~👍 □♥▽∴∴ □~✕∴👍 👍~◊ ?

The clues used are :

♥ Their product is odd. Their difference is 6	△ Their product ends in zero and is less than 30
▽ Their product equals 21 + 21	□ Their product is equal to 32 ÷ 4
∴ Their product is equal to 2 × 3 × 6	∅ Their product is 18 The larger factor is odd.
✕ Their product is between 20 and 25 Their sum is 11	👍 Their product is equal to 30 – 9
~ Their product is 18. Their quotient is 2.	✓ Their product is equal to 16 – 4
≈ Their product is 24 Both factors are even.	◊ Their product is odd. Their difference is 2

Example

Ⓐ Read the clue for the first symbol. Their product is equal to 16 – 4

Ⓑ Find the factor pair that satisfies the clue. 2 , 6

Ⓒ Write the letter for the symbol. W

Try It

1. Solve the rest of the secret message.

2. Adham sent this message : ∴~ ≈♥□∴∴∅

What does it mean ? Explain how you know.

Extra Practice

Chapter 1

1 Solve to find the product.

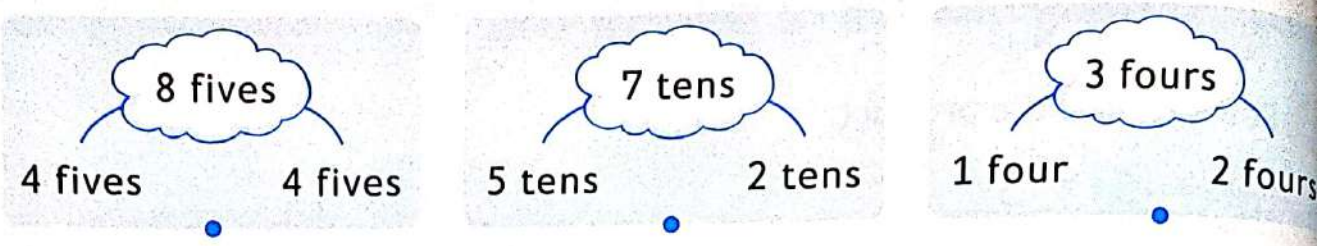
$2 \times 3 \times 5$	$4 \times 2 \times 1$
$6 \times 2 \times 4$	$5 \times 1 \times 7$
$3 \times 2 \times 2$	$4 \times 5 \times 2$

2 Use the distributive property to find the product.

5×12	4×13
2×16	3×18
7×11	6×20

• In this practice your child will review on all what he/she had learned in chapter 1

3 Find the product. Draw a line to match.



3 × 4 = ____

8 × 5 = ____

7 × 10 = ____

(5 × 10) + (2 × 10) = ____

(1 × 4) + (2 × 4) = ____

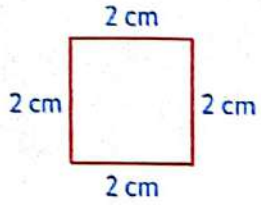
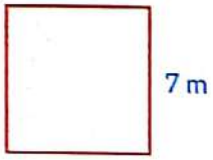
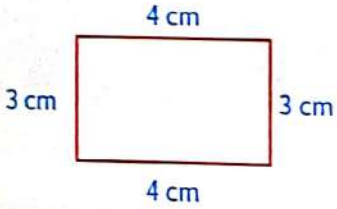
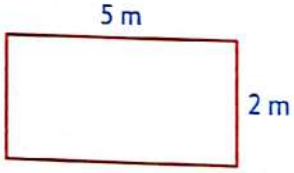
(4 × 5) + (4 × 5) = ____

4 Find the missing numbers.

2 × ____ = 18	____ × 5 = 20	9 × 6 = ____
7 × ____ = 21	____ × 3 = 9	2 × 7 = ____
24 ÷ ____ = 6	42 ÷ ____ = 6	36 ÷ 6 = ____
____ ÷ 5 = 5	____ ÷ 9 = 6	____ ÷ 3 = 5

(8 × 3) × ____ = 48	9 × (7 × ____) = 63
(5 × 12) × ____ = 0	2 × (5 × ____) = 50

5 Find the perimeter and the area of each of the following.

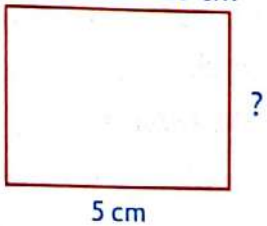
Shape	Perimeter	Area
		
		
		
		

6 Find the length of the square which its perimeter is 36 cm.

Perimeter = 36 cm

7 Find the width of the rectangle which its length is 5 cm and its perimeter is 18 cm.

Perimeter = 18 cm



8 Nada buys 21 toys. She has 4 boxes.
She wants to put 3 toys in each box.
How many more boxes does Nada need ?

9 Mazen earns 15 L.E. per week for 4 weeks to do all his chores. On the fifth week, he forgets to take out the trash, so he only earns 10 L.E.
How much does Mazen earn in 5 weeks ?

10 Mary baked 28 cupcakes. She divided the cupcakes equally into 4 containers. Then, she baked more cupcakes so that she could put 3 more cupcakes in each containers.
How many cupcakes are in each container ?

11 Amir bought 3 pizza slices of 9 pounds each.
He paid 30 pounds.
How much is the rest ?

Assessment

Chapter 1

1 Choose.

① $(2 \times 5) \times 6 =$ _____

- ◯ 3×6
- ◯ 10×6
- ◯ 7×6
- ◯ 25×6

② $(2 \times 3) \times$ _____ $= 48$

- ◯ 12
- ◯ 6
- ◯ 8
- ◯ 4

③ _____ $\div 4 = 7$

- ◯ 3
- ◯ 6
- ◯ 12
- ◯ 28

④ _____ $\times 7 = 56$

- ◯ 9
- ◯ 7
- ◯ 8
- ◯ 6

⑤ $40 \div$ _____ $= 4$

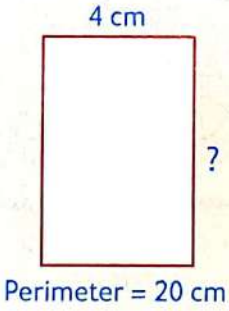
- ◯ 44
- ◯ 10
- ◯ 36
- ◯ 4

⑥ $5 \times 6 = (5 \times 4) + (5 \times$ _____ $)$

- ◯ 6
- ◯ 3
- ◯ 10
- ◯ 2

⑦ The length of the opposite figure is _____

- ◯ 6 cm
- ◯ 12 cm
- ◯ 5 cm
- ◯ 16 cm



⑧ $8 \times 15 =$ _____

- ◯ $8 \times (10 \times 5)$
- ◯ $(8 \times 10) \times (8 \times 5)$
- ◯ $(8 \times 10) + (8 + 5)$
- ◯ $(8 \times 10) + (8 \times 5)$

2 Bassem bought 8 pens. He gave the seller 50 pounds and the seller gave him back 10 pounds as the rest.

What is the price of each pen ?

_____

_____

Chapter 2

Outcomes

At the end of chapter two, your child will be able to:

Lesson 71

- Investigate the relationship between parts and wholes in fractions.
- Define the word "fraction" in relation to parts and wholes.

Lesson 72

- Create models to represent fractions.
- Describe one part of a whole using fraction vocabulary.
- Define unit fraction.

Lesson 73

- Discuss fractions terms numerator, denominator, and unit fraction.
- Reason with fractions in real-life applications using models.
- Write a fraction story problem using models.

Lesson 74

- Compare different unit fractional parts of the same whole using models.
- Explain the relationship between the size of the denominator and the size of the fraction as it relates to the whole.

Lesson 75

- Identify unit fractions of a set.
- Expand originals definition of fraction.

Lesson 76

- Explain why the size of the whole matters when comparing two unit fractions.

Lesson 77

- Write one whole as a fraction.
- Explain how to write one whole as a fraction.

Lessons 78 to 80

- Investigate the relationship between fractions and division using models.
- Divide a set into equal parts.
- Determine the quantity in each fractional part of a set.
- Explain the relationship between fractions and division.
- Reason with fractions in real-life applications.

Key vocabulary

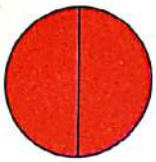
- Equal parts
- Halves
- Sixths
- Numerator
- Divide
- Whole
- Thirds
- Eighths
- Greater than
- Division
- Fair shares
- Fourths
- Unit fraction
- Less than
- Fraction
- Fifths
- Denominator
- Set

Lesson 71

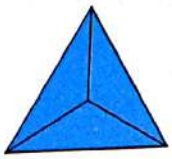
Equal parts

Learn

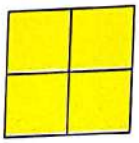
- **Are the parts equal ?**



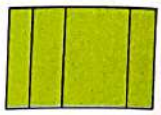
2 equal parts
They are halves.



3 equal parts
They are thirds.

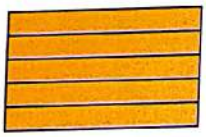


4 equal parts
They are fourths.



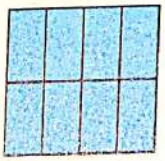
4 unequal parts
They are NOT fourths.

- **Here are other ways to divide a whole into equal parts.**

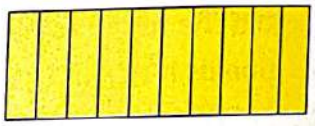


5 equal parts
They are fifths.

6 equal parts
They are sixths.



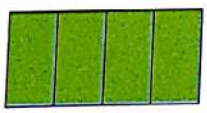
8 equal parts
They are eighths.



10 equal parts
They are tenths.

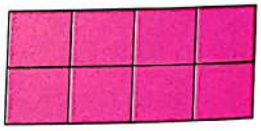
Check

Write the number of parts. Circle equal or unequal.



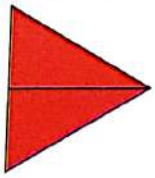
___ equal parts
___ unequal parts

___ equal parts
___ unequal parts

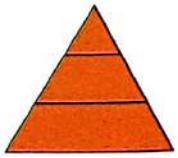


___ equal parts
___ unequal parts

___ equal parts
___ unequal parts



___ equal parts
___ unequal parts



___ equal parts
___ unequal parts

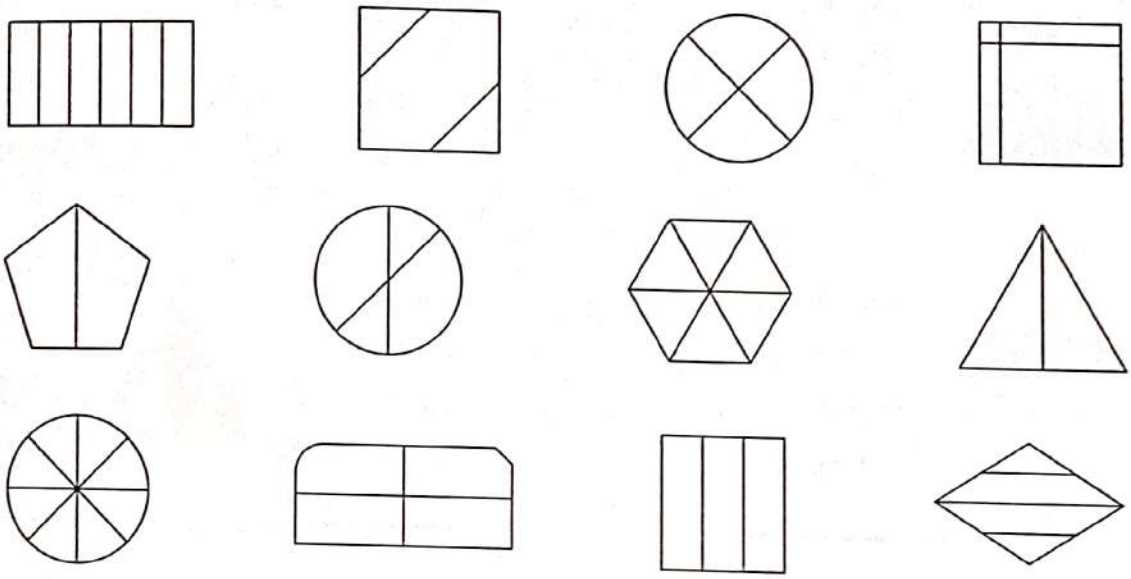
Notes for parents

Connect :

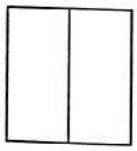
- Remind your child that fair share means dividing something equally. Ask his/her to show you how he/she can share a pie equally among 2 , 3 or 4 people.

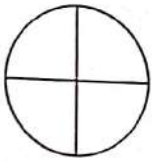
Practice

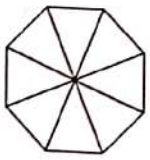
Circle the shapes that are divided into equal parts.

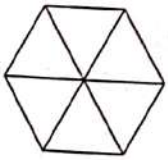


Match.





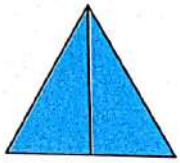




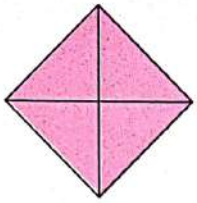
- Thirds
- Fourths
- Sixths
- Halves
- Eighths

• Help your child to match the shapes with the correct answer.

Does the picture show halves, thirds, fourths, or fifths ? Circle your answer.

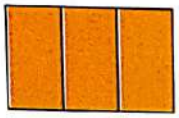


halves
thirds
fourths
fifths

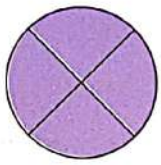


halves
thirds
fourths
fifths

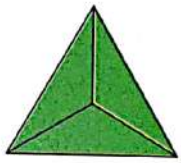
halves
thirds
fourths
fifths



halves
thirds
fourths
fifths

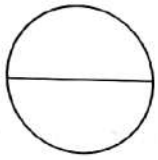


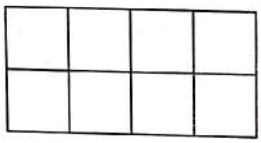
halves
thirds
fourths
fifths

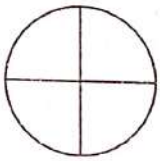


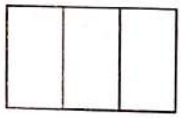
halves
thirds
fourths
fifths

Name the equal parts of each whole.









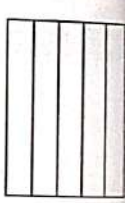
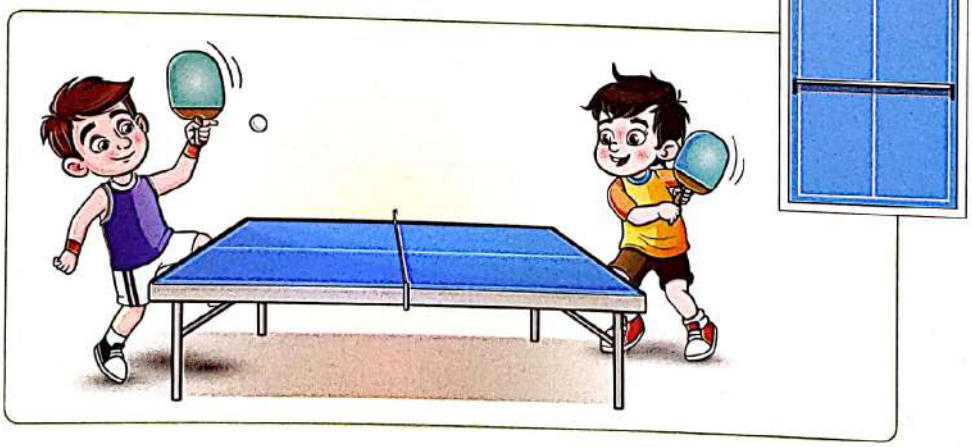
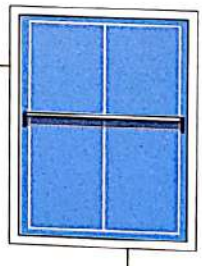


Table tennis was invented in England about 100 years ago. Name the equal parts of the table top.



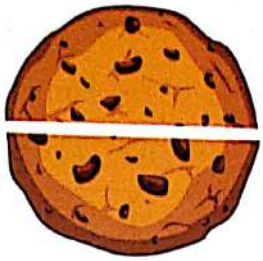


Notes for parents

- Draw another shape divided into six equal parts and let your child tell you its name (he/she should say sixths).

Answer the following.

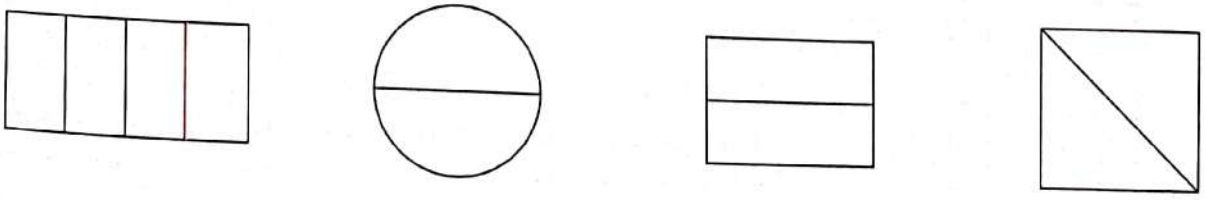
ⓐ If 2 people want to share a cookie fairly, which image shows how they should cut the cookie ?



ⓑ If 4 people want to share a cookie fairly, which image shows how they should cut the cookie ?

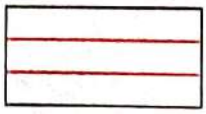
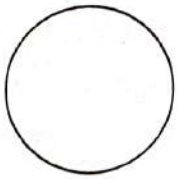
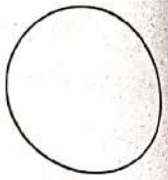
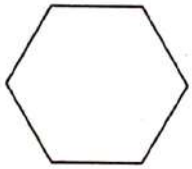
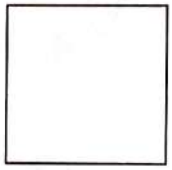
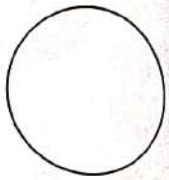
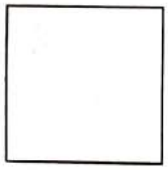
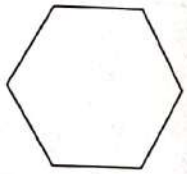
ⓒ If 3 people want to share a cookie fairly, which image shows how they should cut the cookie ?

Draw a line to show fourths. The first one is done for you.



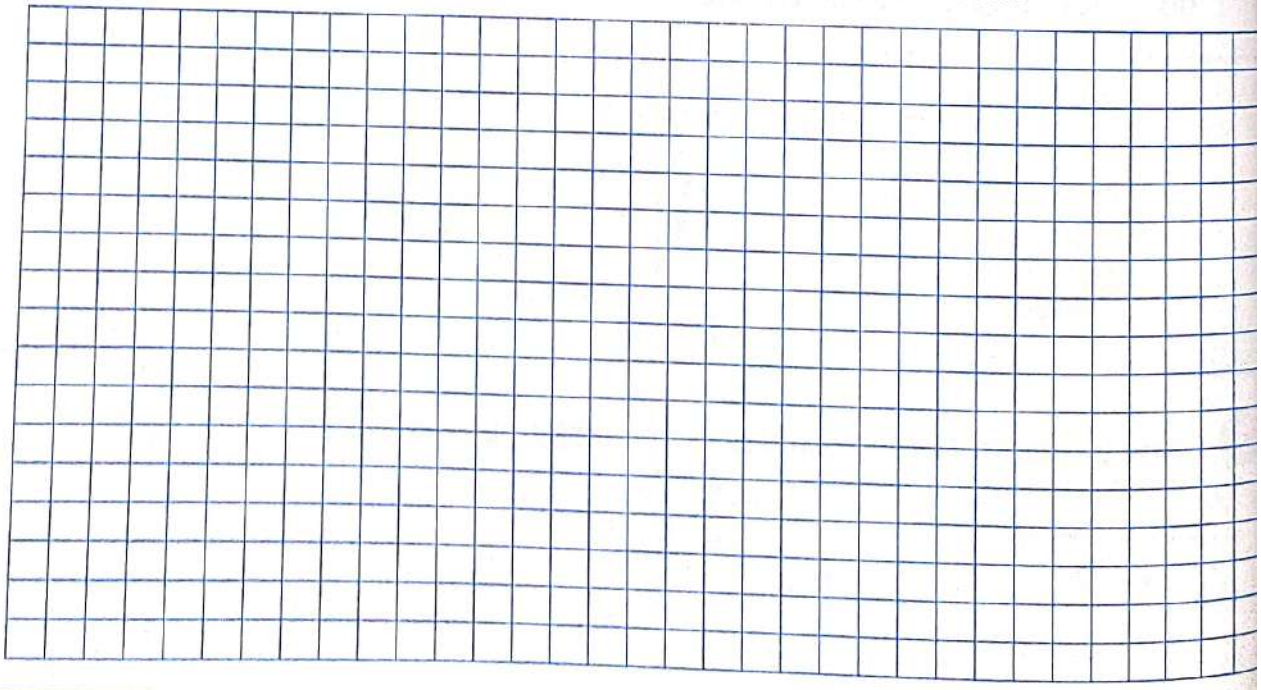
• Ask your child to look for things at home that is divided into equal parts and let him/her to tell its name.

Draw a line or lines to show equal parts. The first one is done for you.

 Thirds	 Halves	 Fourths
 Sixths	 Fourths	 Thirds
 Fifths	Eighths	 Halves

Draw a picture to show each on the below grid.

1. Fifths
2. Thirds
3. Sixths
4. Fourths



Notes for parents

- Ask your child if he/she can divide each shape in more than one way or not.

Challenge

Work area

- Suppose two pizzas are the same size. One pizza is divided into eighths and the other pizza is divided into tenths. Which pizzas has larger pieces ?

- Show 3 different ways to divide a square into fourths. You may use grid paper to help.

- Yaser wanted to share the cake below with three of his friends. Here is how he cut it :

His friends told him that would not work because there were four of them all together. So Yaser took one of the pieces and cut it in half. "Now we have fourths." Was Yaser's thinking correct ? Why or why not ? Explain your thinking in the box below. Then, if you disagree with Yaser's solution, draw how he could have cut the cake to share it equally among the four people.

• Help your child to solve the challange.

Place a smiley face

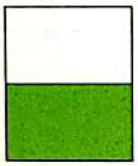
Lesson

72 Unit fractions

Pre-study Fractions as parts of a whole

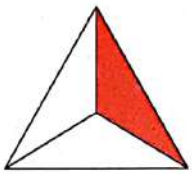
- A fraction can name equal parts of a whole shape.

There are 2 equal parts.
They are halves.
One half is green.



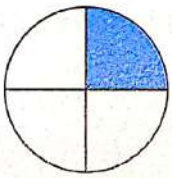
$\frac{1}{2}$ ← Number of green parts
← Number of equal parts

$\frac{1}{2}$ ← Numerator
← Denominator



1 part is red.
3 equal parts
One third is red.

$\frac{1}{3}$ is red.



1 part is blue.
4 equal parts
One fourth is blue.

$\frac{1}{4}$ is blue.

Vocabulary

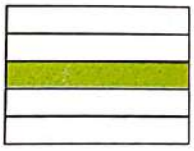
Fraction comparison of equ parts to a whole

Numerator top number of a fraction that tells the number of equ parts considered

Denominator bottom number of a fraction that tells the number of equ parts in all

Check

Tell how many green parts there are.
Tell how many equal parts there are. Write the fraction.



_____ part is green.

_____ equal parts

_____ is green.

_____ part is green.

_____ equal parts

_____ is green.

_____ part is green.

_____ equal parts

_____ is green.

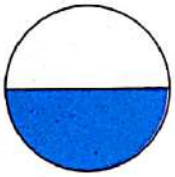
Notes for parents

Connect :

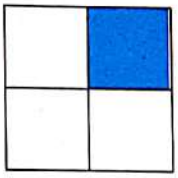
- Let your child examine two different ways to divide a square into halves and fourths. Give him/her a piece of paper in the shape of square, and then ask him/her to fold it once in halves and another in fourths .

Practice

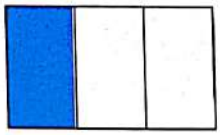
Write the fraction for the colored part of each shape.



_____

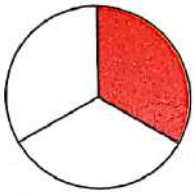


_____

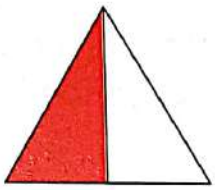


_____

_____

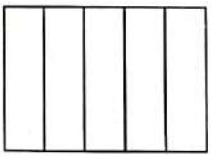


_____

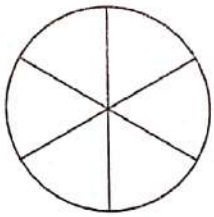


_____

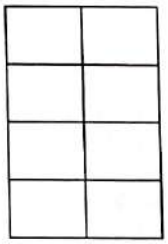
Color to show the fraction.



$\frac{1}{5}$

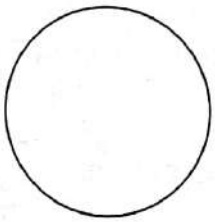


$\frac{1}{6}$

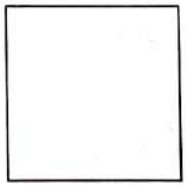


$\frac{1}{8}$

Draw a line or lines to show equal parts. Then color to show the fraction.



$\frac{1}{2}$



$\frac{1}{3}$

$\frac{1}{4}$

- Ask your child to draw three squares. Then ask him/her to divide and color them to show $\frac{1}{2}$, $\frac{1}{3}$ and $\frac{1}{4}$.

Match.

A fraction, its numerator is 1, its denominator is 4.	$\frac{1}{3}$
A fraction, its numerator is 1, its denominator is 3.	$\frac{1}{4}$
A fraction, its numerator is 1, its denominator is 5.	$\frac{1}{2}$
A fraction, its numerator is 1, its denominator is 2.	$\frac{1}{8}$
A fraction, its numerator is 1, its denominator is 8.	$\frac{1}{5}$

Notes for parents

- Ask your child what is the name of each fraction.

Learn Unit fractions

Vocabulary
Unit fraction
It is a fraction with a 1 as the numerator. It represents one unit, or one part of a whole.

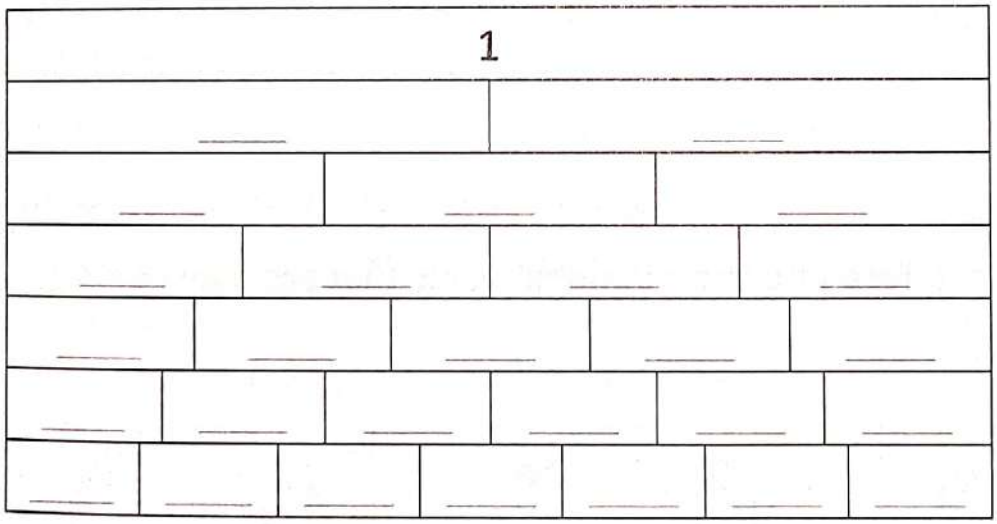
- You can divide one whole into unit fractions in different ways.

1	One whole
$\frac{1}{2}$ $\frac{1}{2}$	2 halves
$\frac{1}{3}$ $\frac{1}{3}$ $\frac{1}{3}$	3 thirds
$\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$	4 fourths

1 whole = 2 halves = 3 thirds = 4 fourths

Practice

Label each bar on the fraction model. Color each bar by a different color.



- Complete.

- Number of halves in one whole is _____
- Number of thirds in one whole is _____
- Number of fourths in one whole is _____
- Number of sixths in one whole is _____
- Number of sevenths in one whole is _____
- Number of eighths in one whole is _____

- Help your child to model unit fractions on a piece of paper. Let him/her label each bar and color it by a different color. Help him/her cut apart fraction models.

Place a smiley face

Lesson

73 Fractions story problems

Connect Fractions on a clock

- The minute hand can divide a clock into equal parts.
  So, you can use fractions when you tell time.

Example

6:00

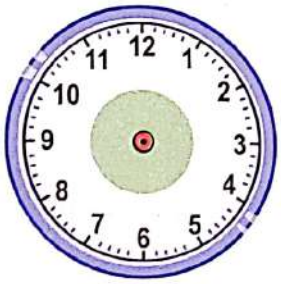
6:15
$\frac{1}{4}$ or quarter after 6

6:30
$\frac{1}{2}$ or half past 6

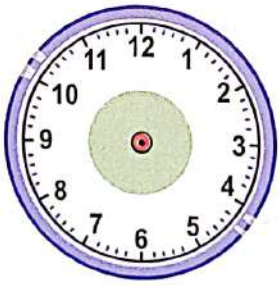
6:45
$\frac{1}{4}$ or quarter to 7

Check

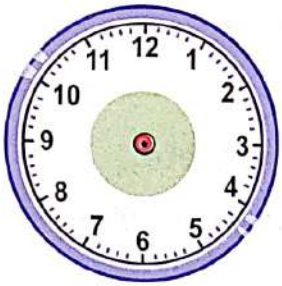
Divide each clock face into the fractional parts that are listed below each clock.



Halves



Fourths



Thirds

Notes for parents

- Help your child to divide the clock face into thirds by draw lines from the center to 1 , 5 and 9.

Practice

Use the clock to answer each question.

- You can divide the clock into 2 equal parts by drawing a line from 12 to 6.

  You can also draw a line from 1 to 7 that divides the clock into 2 equal parts.

  In what other ways can you divide the clock into 2 equal parts ?

  Show them on the clock.

- You can divide the clock into 3 equal parts.

  You can draw lines from the center to 1 , 5 and 9.

  What other lines can you draw to divide the clock into 3 equals parts ?

- You can divide the clock into 4 equal parts.

  You can draw lines from the center to 4 , 7 , 10 and 1.

  What other lines can you draw to divide the clock into 4 equal parts ?

- Give your child a circular piece of paper and ask him/her to divide it into 4 equal parts.

Learn How to solve fractions story problems

Sarah had a bar of chocolate. She divided it into 3 equals parts, and ate one of them.

What fraction of the chocolate did she eat ?

Work area

Make a model to solve.

The fraction of the chocolate she ate = $\frac{1}{3}$

Math tip

You may draw a model to help you think about the answer.

Check

Yara has one apple. She cut it into four equal pieces. She wants to share it with 3 of her friends.

Which fraction matches this story ?

Work area

The fraction is _____

Notes for parents

- Ask your child to read the problem carefully and draw a model to solve it.

Mina has a long piece of wood. He needs to cut it into enough pieces to share with his 6 friends.

Which fraction matches this story ?

Work area

The fraction is _____

Practice

Ahmed, Ali and Hamza share a candy bar. Which of your fraction strips shows how can each one get an equal part ? **Draw and label it below.**

Work area

Mariam has a long sandwich. She wants to share it with 4 of her friends. Which of your fraction strips best matches this story ? **Draw and label it below.**

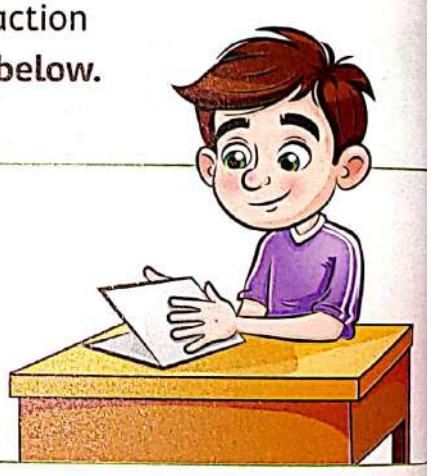
Work area

• Help your child to use the fraction strips to solve the problem.

Mostafa had a candy bar. He took 2 days to eat it and ate the same amount each day. On Friday, he ate 1 piece. On Saturday, he ate 1 more piece. Which of your fraction pieces best matches the story ? **Draw and label it below.**

Work area

Wael bends a square piece of cardboard in halves. He bends each half in half again. Which of your fraction strips best matches this story ? **Draw and label it below.**



Work area

Ahmed bends a piece of cardboard in thirds. He bends each third in half again. Which strip best matches this story ? **Draw and label it below.**

Work area

Notes for parents

- Encourage your child to use the fraction strips to solve each problem.

Challenge

- Sameh bends a piece of cardboard in thirds.
  He bends each third in half, then he bends each piece in half again. What would the strip look like ?
  Draw and label it below.

Work area

- Marvina had a long piece of wood.
  She cut it into 8 equal parts. She gave 3 of the parts to her sister and 1 part to her brother.
  What fraction of the wood does Marvina have left ?
  In the box below, draw a strip that matches this story and label each part.
  Color in the fraction that her sister gets red and the part her brother gets blue.

Work area

Lesson

74 Comparing unit fractions

Learn Comparing unit fractions

Vocabulary

Unit fraction
a fraction with a numerator of 1

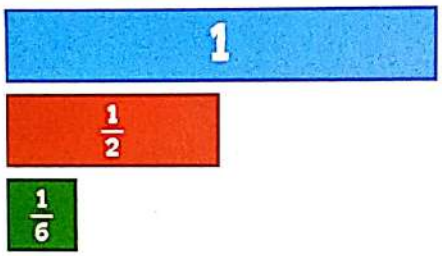
- You can use fraction strips to compare fractions.

For example :

To compare $\frac{1}{2}$ and $\frac{1}{6}$, do as follows :

Step 1

Line up $\frac{1}{2}$ and $\frac{1}{6}$ fraction strips under the bar for 1.



Step 2

Compare the size of fraction strips.

- The strip of $\frac{1}{2}$ is longer than the strip of $\frac{1}{6}$

So $\frac{1}{2} > \frac{1}{6}$

or $\frac{1}{6} < \frac{1}{2}$

From previous example notice that :

$\frac{1}{2}$ and $\frac{1}{6}$ have the same numerator (1)

and

$2 < 6$

2 : denominator of $\frac{1}{2}$

6 : denominator of $\frac{1}{6}$

the result is $\frac{1}{2} > \frac{1}{6}$

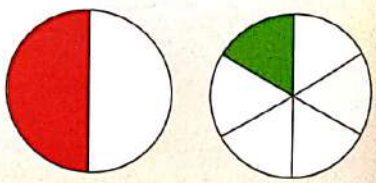
GENERALLY

When comparing unit fractions, the one with the lesser denominator is greater because the whole is divided into fewer pieces, so the pieces are larger.

Try this !

If you work with a circle fraction models

Is $\frac{1}{2}$ still larger than $\frac{1}{6}$?



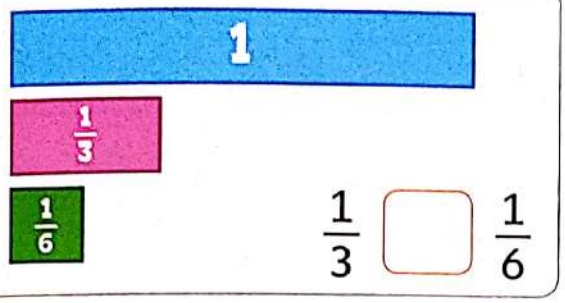
Notes for parents

Connect :

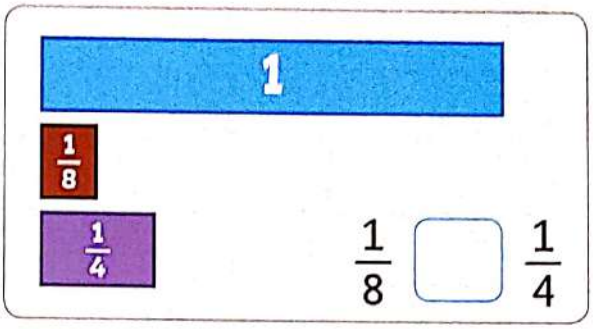
- Ask your child to draw a rectangle and divide it into 4 equal parts. Ask him/her to write the fraction on each part.

Check

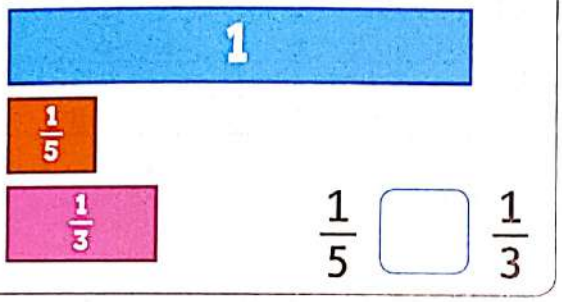
Compare. Write > or <. You may use fraction strips to help.



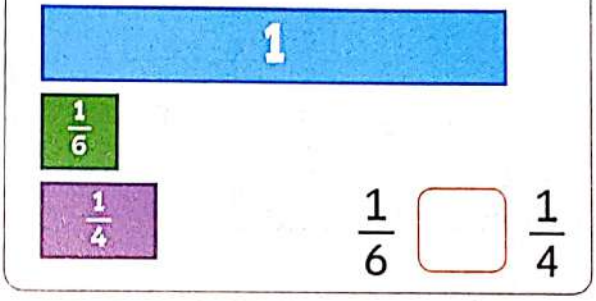
$\frac{1}{3} \square \frac{1}{6}$



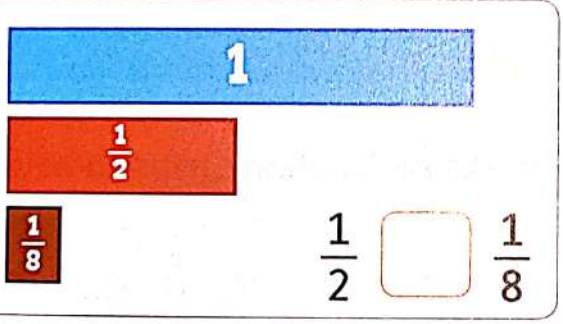
$\frac{1}{8} \square \frac{1}{4}$



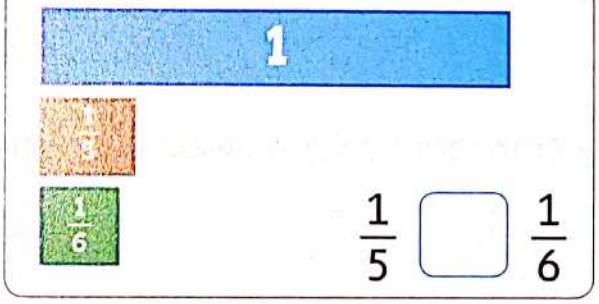
$\frac{1}{5} \square \frac{1}{3}$



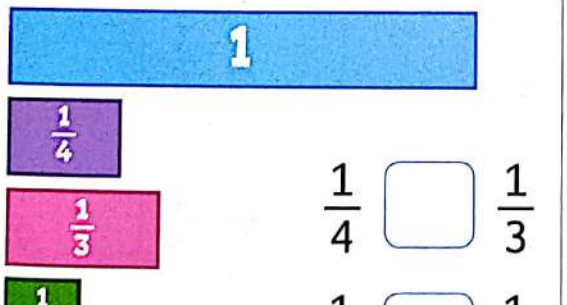
$\frac{1}{6} \square \frac{1}{4}$



$\frac{1}{2} \square \frac{1}{8}$

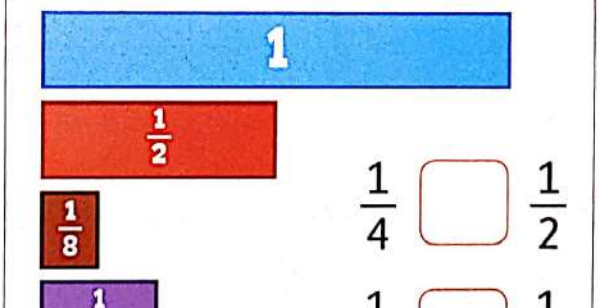


$\frac{1}{5} \square \frac{1}{6}$



$\frac{1}{4} \square \frac{1}{3}$

$\frac{1}{6} \square \frac{1}{4}$



$\frac{1}{4} \square \frac{1}{2}$

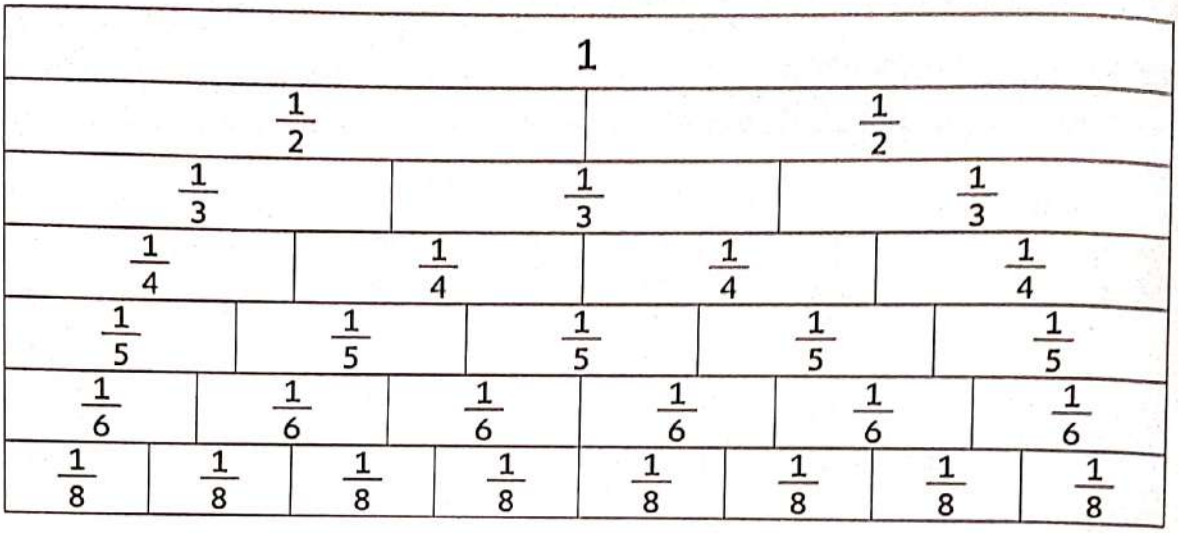
$\frac{1}{4} \square \frac{1}{8}$

If you made a model for $\frac{1}{10}$, would it be bigger or smaller than $\frac{1}{8}$?
Why do you think so ?

• Ask your child how he/she solve the problems in this page.

Practice

Use the rectangles to compare fractions.



- Compare $\frac{1}{3}$ and $\frac{1}{2}$.

Think: The rectangle that shows $\frac{1}{3}$ is smaller than the rectangle that shows $\frac{1}{2}$

So, $\frac{1}{3} < \frac{1}{2}$

- Compare. Write <, > or =. Use the rectangles or fraction strips to help.

1. $\frac{1}{2} \square \frac{1}{8}$
2. $\frac{1}{3} \square \frac{1}{5}$
3. $\frac{1}{8} \square \frac{1}{4}$
4. $\frac{1}{4} \square \frac{1}{3}$
5. $\frac{1}{2} \square \frac{1}{6}$
6. $\frac{1}{5} \square \frac{1}{7}$
7. $\frac{1}{6} \square \frac{1}{4}$
8. $\frac{1}{5} \square \frac{1}{4}$
9. $\frac{1}{3} \square \frac{1}{7}$
10. $\frac{1}{8} \square \frac{1}{6}$
11. $\frac{1}{8} \square \frac{1}{3}$
12. $\frac{1}{4} \square \frac{1}{2}$
13. $\frac{1}{5} \square \frac{1}{8}$
14. $\frac{1}{7} \square \frac{1}{4}$
15. $\frac{1}{5} \square$ 1 whole

Notes for parents

- Your child may need to color the rectangle related with each fraction to be easy to compare fractions.

Use fraction strips.

Compare each fraction. Write < , > or = in the circle.

Math tip

Be sure to line up the strips when you compare them.

$\frac{1}{2} \bigcirc \frac{1}{6}$	$\frac{1}{6} \bigcirc \frac{1}{3}$	1 whole $\bigcirc \frac{1}{4}$
$\frac{1}{3} \bigcirc \frac{1}{8}$	$\frac{1}{3} \bigcirc \frac{1}{3}$	$\frac{1}{8} \bigcirc \frac{1}{6}$
$\frac{1}{4} \bigcirc \frac{1}{2}$	$\frac{1}{2} \bigcirc \frac{1}{3}$	$\frac{1}{5} \bigcirc \frac{1}{8}$
$\frac{1}{8} \bigcirc \frac{1}{4}$	$\frac{1}{5} \bigcirc \frac{1}{6}$	$\frac{1}{6} \bigcirc$ 1 whole

Story problem on comparing unit fractions.

Omnia needs $\frac{1}{4}$ L of oil and $\frac{1}{6}$ L of water to make a large batch of muffins.

Will Omnia use more oil or more water ?

Explain your answer using pictures, numbers, and words in the box below. Use your fraction models to help you.

- Make sure that your child remembers to line up strips when he/she compare them.

Youssef needs to cut some wood for a project. He needs $\frac{1}{5}$ of a meter for the top and $\frac{1}{4}$ of a meter for the base. Which piece of wood will be larger ? **Explain your answer using pictures, numbers and words in the box below.**

Bassem and Amgad ran on the track to see who could run farther without stopping. Bassem run $\frac{1}{5}$ of a kilometer and Amgad ran $\frac{1}{7}$ of a kilometer. Who ran farther ? **Explain your answer using pictures, numbers and words in the box below.**

Mariam and Hanna climbed a rock wall. Mariam climbed $\frac{1}{4}$ of the wall and Hanna climbed $\frac{1}{8}$ of the wall. Who climbed higher ? **Explain your answer using pictures, numbers and words in the box below.**

Notes for parents

- Let your child compare fractions without using fraction strips. Ask him/her to compare first the demominator of the two fractions.

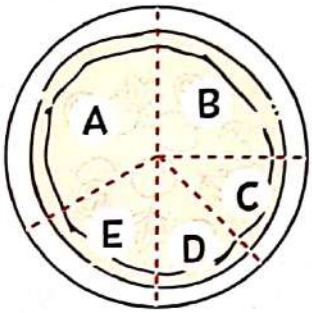
Challenge

- Your friend Mostafa says that $\frac{1}{8}$ is greater than $\frac{1}{3}$ because 8 is greater than 3.

Is Mostafa correct ? Use words and pictures to explain in the box below.

- **Some friends want to share a pizza. Read what they say. Then write the letter of the slice to give each person.**

1. "I want $\frac{1}{4}$ of the pizza" said Sandy. _____
2. "I want more than Sandy" said Marvina. _____
3. "I want half as much as Marvina" said Sameh. _____
4. "I want less than Sameh" said Mariam. _____
5. "I want as much as Mariam" said Mina. _____



- **Order the fractions from least to greatest. Use fraction strips to order.**

- $\frac{1}{2}, \frac{1}{8}, \frac{1}{4}$ Order is _____, _____, _____

- $\frac{1}{12}, \frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{1}{9}$ Order is _____, _____, _____, _____, _____

- **Order the fractions from greatest to least. Use fraction strips to order.**

- $\frac{1}{7}, \frac{1}{4}, \frac{1}{2}$ Order is _____, _____, _____

- $\frac{1}{3}, \frac{1}{10}, \frac{1}{9}, \frac{1}{4}$ Order is _____, _____, _____, _____

- Let your child explain how he/she compare $\frac{1}{8}$ and $\frac{1}{3}$ without using fraction strips.
- Ask your child to compare the denominator in each problem.

Place a smiley face

Lesson

75 Unit fractions of a set

Learn

- In this lesson, you are going to look at fractions in a different way, where the whole is not a single object but a set of objects.
- You can use a unit fraction to name one of equal parts of a set.

There are 1 blue shirt.

ere are 5 shirts in all.

$\frac{1}{5}$ of the shirts are blue.

Note : The number of total parts of the set is the denomiator of the fraction.

Check

Write the fraction of the group that is blue.

_____ blue pant.

_____ pants in all.

_____ of the pants are blue.

_____ blue sweater.

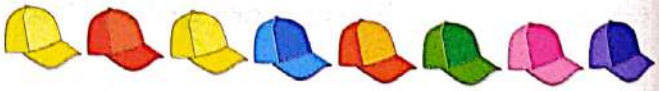
_____ sweaters in all.

_____ of the sweaters are blue.

_____ blue vest.

_____ vests in all.

_____ of the vests are blue.



_____ blue cap.

_____ caps in all.

_____ of the caps are blue.

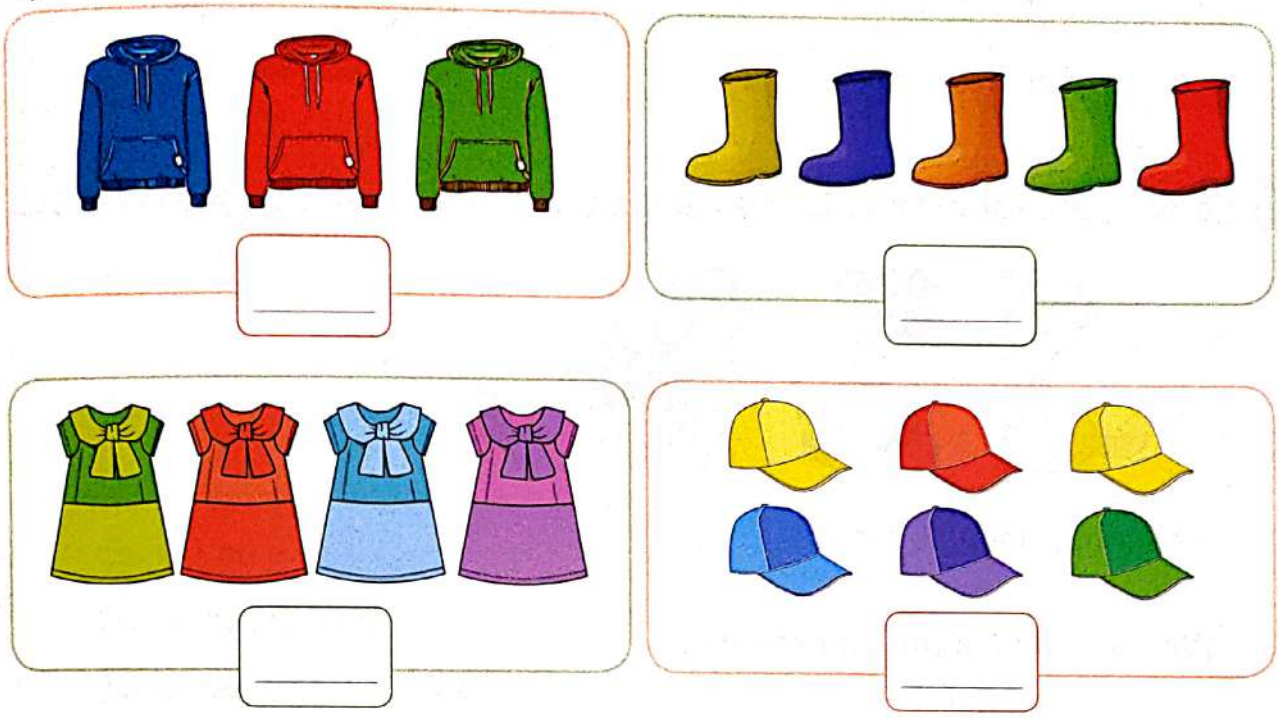
Notes for parents

Connect :

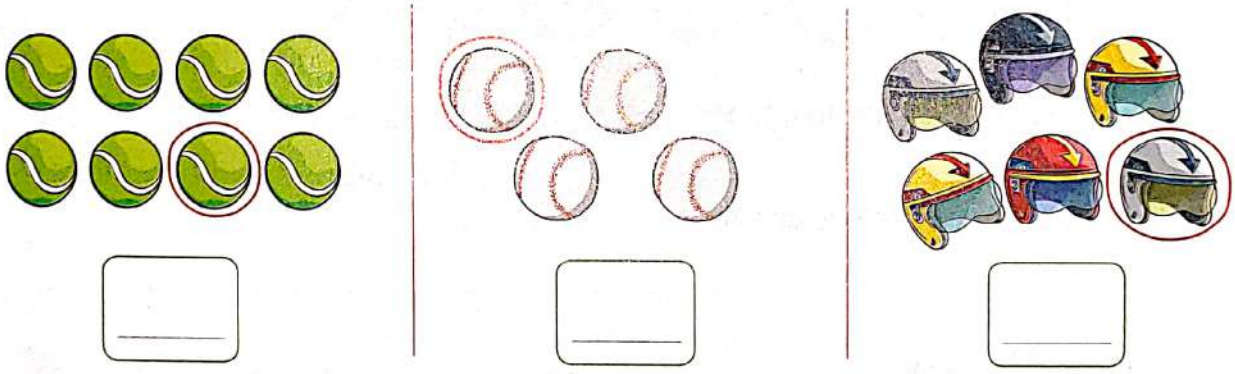
- Revise with your child the units of measuring mass.
- Ask him/her to tell something he/she measure it in grams and another something can measure in kilograms.
- Ask him/her to estimate the mass of a watermelon and a lemon.

Practice

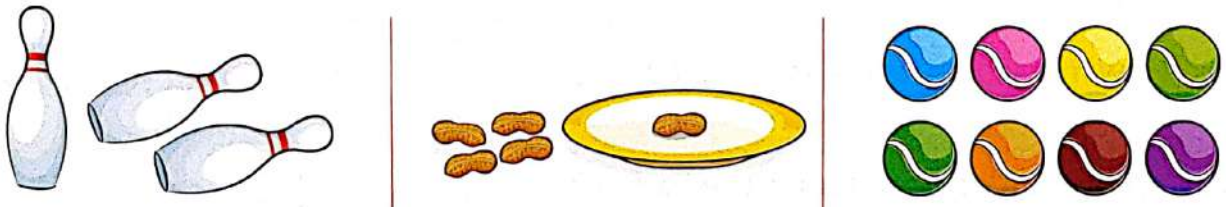
Write the fraction of the group that is red.



Write a fraction to show what part of each set is circled.



Write a fraction to complete each sentence.



_____ of the bowling pins are standing up.

_____ of the peanuts are in the plate.

_____ of the tennis balls are yellow.

• Remind your child that the fractions denominator is always the number of all of the pieces of parts.

Write the fraction.

_____ of apples are yellow.

_____ of apples are green.

Look at the following pictures and answer the questions about the set.

How many animals are in the set ? _____

What fraction of the set are cats ? _____

How many objects are in the set ? _____

What fraction of the set are keys ? _____

How many objects are in the set ? _____

What fraction of the set is the rocket ? _____

What fraction of the set is the airplane ? _____

Notes for parents

- Ask your child to count all objects first to be the denominator of the fraction.

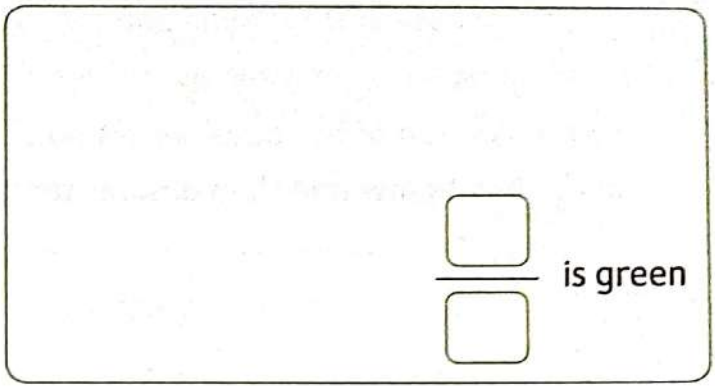
Draw, color and answer.

- Draw 3 circles.

  Color 1 green.

  Color the rest yellow.

  What fraction is green ?

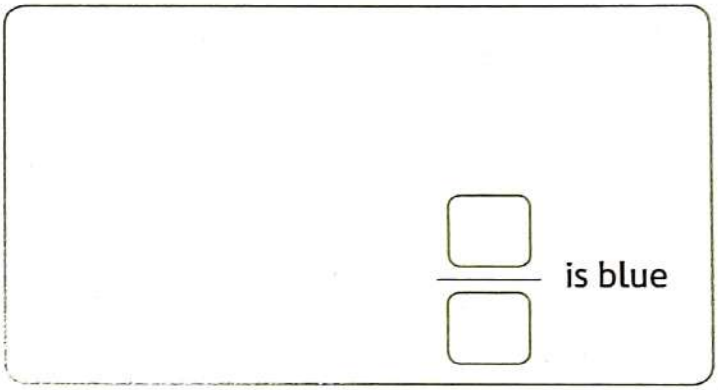


- Draw 5 circles.

  Color 1 blue.

  Color the rest red.

  What fraction is blue ?



Habiba picked 7 flowers for her mom. One of them was pink and the rest were red. **What fraction of the set were pink ? Draw a representation of this story in the box below and then solve.**

- Suggest that your child draw a picture to help him/her to solve the problem.

Omnia woke up one morning and looked out her window. She saw 5 birds sitting on the fence. Four of them were large and 1 was small.

What fraction of the birds were small ? Draw a representation of this story in the box below and then answer the question.

Challenge

- **What fraction of a week is one day ?** _____

- Bassem has 8 marbles. He gave 3 marbles to a friend and 4 marbles to his sister.

  What fraction is left ? _____

Notes for parents

- Remind your child that the week has 7 days.

Place a smiley face

Lesson

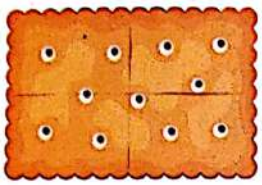
76 Same fractions of different size wholes

Learn

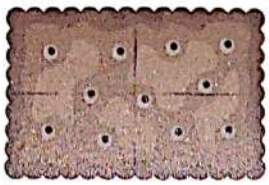
- The quantity represented by a fraction depends on the size of the whole.

First case → **If the wholes have the same size.**

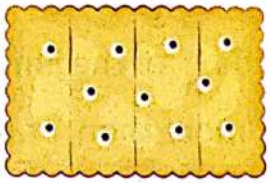
Bassem, Mina and Marwan have 3 crackers of the same size.
Each cracker has 4 equal parts.



Bassem's cracker



Mina's cracker



Marwan's cracker

How are the parts of the 3 crackers alike ? How are they different ?

- The parts of each cracker show $\frac{1}{4}$ of the cracker.
- $\frac{1}{4}$ of Mina's cracker has the same size and the same shape of $\frac{1}{4}$ Bassem's cracker.
- $\frac{1}{4}$ of Marwan's cracker has the same size of $\frac{1}{4}$ of Bassem's cracker, but they have different shape.

Second case → **If the wholes have different sizes.**

Is $\frac{1}{3}$ of Amal's fruit pie the same size as $\frac{1}{3}$ of Bassma's pie ? Why or why not ?

Amal's pie

Bassma's pie

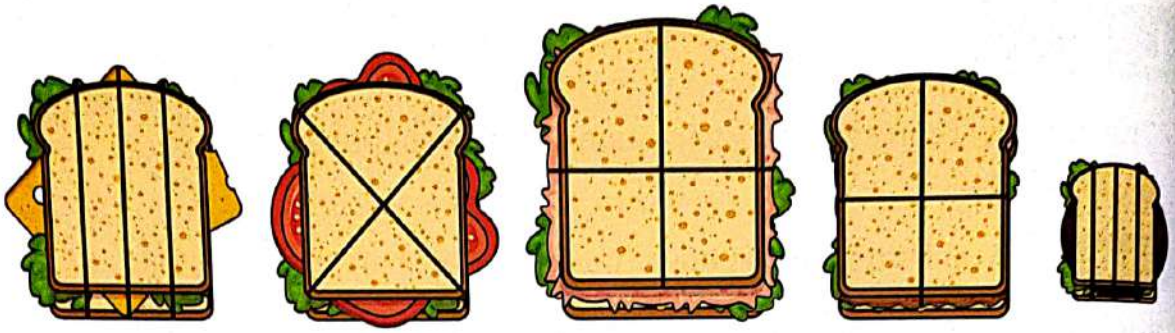
No, Bassma's whole pie is bigger, so, $\frac{1}{3}$ of her pie is bigger.

Connect :

- Revise with your child the concept of unit fraction. Draw a circle and divide it into equal parts. Shade one part and ask your child to write the fraction of the shaded part. Analyze your child answer.

Check

Look at the size of the bread slices in each of the sandwiches. Suppose each sandwich could be cut into 4 equal parts. Solve the problems.



cheese | tomato and lettuce | jumbo tuna | peanut butter | mini burger

1. Is $\frac{1}{4}$ of the jumbo tuna sandwich the same as, more than, or less than $\frac{1}{4}$ of the peanut butter sandwich ? _____

2. Is $\frac{1}{4}$ of the mini burger sandwich the same as, more than, or less than $\frac{1}{4}$ of the cheese sandwich ? _____

3. Is $\frac{1}{4}$ of the cheese sandwich the same as, more than, or less than $\frac{1}{4}$ of the peanut butter sandwich ? _____

4. Is $\frac{1}{4}$ of the tomato and lettuce sandwich the same as, more than, or less than $\frac{1}{4}$ of the peanut butter sandwich ? _____

Circle the correct answer.

- **Which is more ?**
  (Half of one piece of watermelon **or** half of one piece of orange)

- **Which is less ?**
  ($\frac{1}{8}$ of a large pizza **or** $\frac{1}{8}$ of a small pizza)

Notes for parents

- Ask your child to cut 2 food items into equal parts. Ask him/her which part is more.

Practice

Sameh likes to eat a lot of pie.
His friend told him he could have $\frac{1}{2}$ of pie A or $\frac{1}{2}$ of pie B. Which pie should Sameh choose if he wants to eat a lot of pie ?
Explain your answer in the box below.

B

A

Work area

Two friends, each one of them baked a pizza for you with two different sizes, the smaller one with green peppers and the larger one with cheese, if you ate $\frac{1}{3}$ of the green peppers pizza and $\frac{1}{3}$ of cheese pizza.
Will you eat the same amount of each pizza ?
Draw a picture and explain how $\frac{1}{3}$ of each pizza could be a different amount.

Work area

• Have your child explain his/her answers.

Ahmed picked 8 marbles and put them in a bag.

Maged picked 6 marbles and put them in a bag.

If you could have $\frac{1}{2}$ of either Ahmed's or Maged's bag.

Which you choose if you wanted the greatest number of marbles ?

Explain your answer in the box below.

Work area

Circle the correct answer.

1. **Which is more ?** (half of a strawberry or half of an apple)
2. **Which is longer ?** (half of a minute or half of an hour)
3. **Which is longer ?** (half of a kilometer or half of a meter)
4. **Which is longer ?** (half of a meter or half of a millimeter)
5. **Which is more ?** (half of a milliliter or half of a liter)
6. **Which is more ?** (half of a cookie or half of a pizza)
7. **Which is more ?** (half of 20 L.E. or half of 50 L.E.)
8. **Which holds more ?** (half of a glass for water or half of a swimming pool)
9. **Which is longer ?** (half of lunch time or half of Saturday)
10. **Which is longer ?** (half of a week or half of a day)

Challenge

- Can you compare between half of a kilometer and half of a kilogram ? Explain your answer.

Notes for parents

- Ask your child to compare half of a large rectangle and half of a small rectangle.

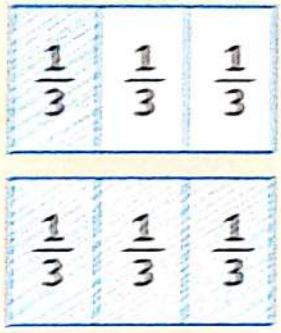
Place a smiley face

Lesson

77 Write one whole as a fraction

Learn

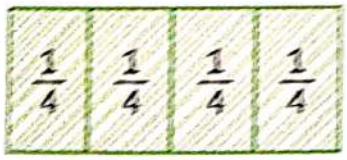
- The rectangle is divided into 3 equal parts.
- Each part of the rectangle is $\frac{1}{3}$ of a whole.



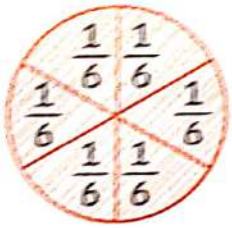
$\frac{3}{3}$

- How many thirds would it take to make one whole rectangle? 3
- In this case, what is the fraction that shows the whole rectangle? $\frac{3}{3}$

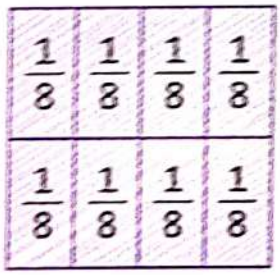
More examples to show one whole.



$\frac{4}{4}$



$\frac{6}{6}$



$\frac{8}{8}$

- **Make a prediction :**

Do you have a prediction about how many fifths would make one whole?

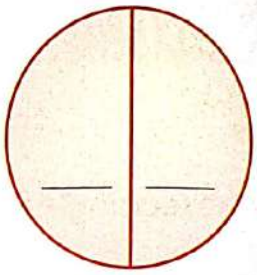
Connect : Ask your child a question as :

- A friend wants to share a pizza with you. Would you rather have $\frac{1}{2}$ or $\frac{1}{4}$ of the pizza? Your child may choose the smaller fraction if he/she doesn't like pizza.

Check

Read the direction for each shape. Then , answer the questions.

- Lable the unit fractions for this circle.

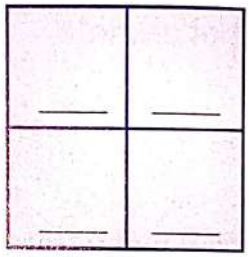


How many halves make one whole ? _____

What is the fraction that shows the whole circle ?

_____

- Label the unit fractions for this square.

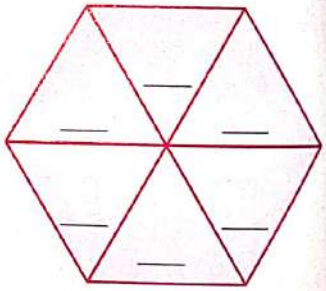


How many fourths make one whole ? _____

What is the fraction that shows the whole square ?

_____

- Label the unit fractions for this hexagon.

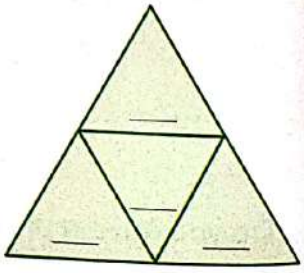


How many sixths make one whole ? _____

What is the fraction that shows the whole hexagon ?

_____

- Label the unit fraction for this triangle.



How many fourths make one whole ? _____

What is the fraction that shows the whole triangle ?

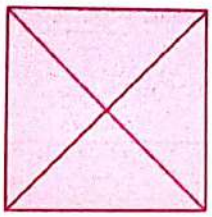
_____

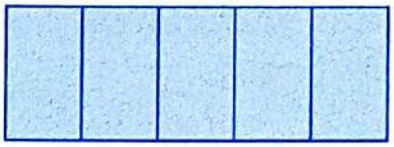
Notes for parents

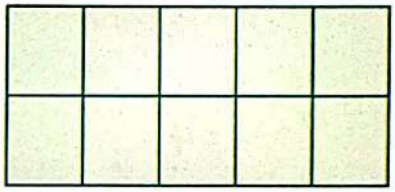
- Let your child deduce that : $1 = \frac{2}{2} = \frac{3}{3} = \frac{4}{4} = \ldots$

Practice

Answer the following questions.







- How many fourths does make one whole ? _____
- How many fifths does make one whole ? _____
- How many tenths does make one whole ? _____
- How many eighths does make one whole ? _____
- How many twentieths does make one whole ? _____

Complete.

$1 = \frac{\quad}{3}$	$1 = \frac{7}{\quad}$	$1 = \frac{\quad}{9}$
$1 = \frac{8}{\quad}$	$1 = \frac{\quad}{6}$	$1 = \frac{13}{\quad}$
$1 = \frac{15}{\quad}$	$1 = \frac{10}{\quad}$	$1 = \frac{\quad}{20}$

• Ask your child additional questions as how many ninths does make one whole ?

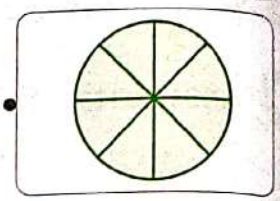
Match.

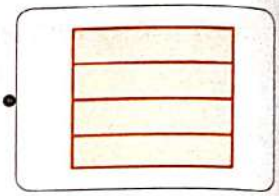
$\frac{5}{5}$ •

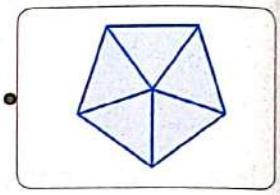
$\frac{8}{8}$ •

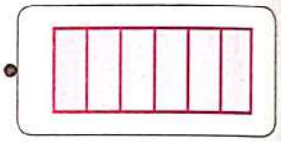
$\frac{6}{6}$ •

$\frac{4}{4}$ •









What does the term "one whole" mean in fractions ? You can use words , numbers or pictures.

Work area

Challenge

- How many people are in your family ? Represent each family member as a unit fraction. Express the whole family as a fraction.

- Football Egyptian team represents each player as a unit fraction. Express the whole team as a fraction.

Notes for parents

- You may need to use fraction strips to help your child write one whole as a fraction.

Place a smiley face

Lessons

78 to 80

Exploring finding a fraction of a number

Learn How to find a fraction of a number

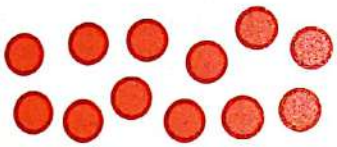
Twelve students signed up to play in a swimming tournament.
One third of the students who signed up are girls. How many girls will play in the swimming tournament ?

Find $\frac{1}{3}$ of 12.

To find that you can follow the following steps :

Step 1

Put 12 counters on your desk.

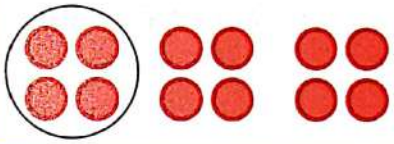


Step 2

Place the counters in 3 equal groups.

Step 3

Count the number in one of the 3 groups.



There are 4 counters in one group. $\frac{1}{3}$ of 12 = 4

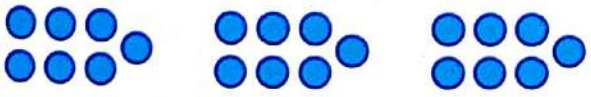
So, 4 girls will play in the swimming tournament.

Math tip

The denominator 3 , tells you to make 3 groups. The numerator 1 , tells you to count 1 of the groups.

You can think about division to find a fraction of a number, for example :

Find $\frac{1}{3}$ of 21.

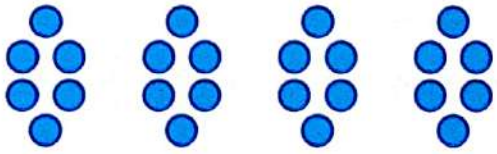


Divide 21 into 3 equal groups.

21 ÷ 3 = 7

$\frac{1}{3}$ of 21 = 7

Find $\frac{1}{4}$ of 24.



Divide 24 into 4 equal groups.

24 ÷ 4 = 6

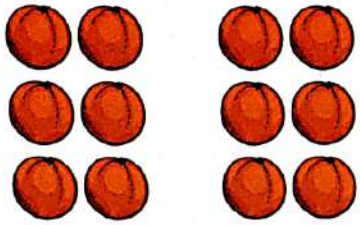
$\frac{1}{4}$ of 24 is 6

Connect :

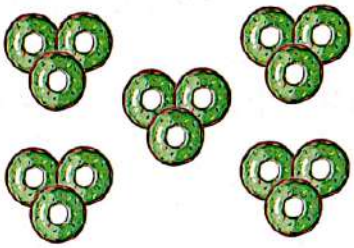
• Give your child some division problems as : 40 ÷ 8 , 36 ÷ 6 , 90 ÷ 9 and ask him/her to solve them.

Check

Solve. You may use counters or draw a picture to help.



$\frac{1}{2}$ of 12 = _____



$\frac{1}{5}$ of 15 = _____

$\frac{1}{3}$ of 6 = _____

Practice

Complete.

- To find $\frac{1}{4}$ of 12, divide 12 into _____ equal groups.
- To find $\frac{1}{3}$ of 15, divide 15 into _____ equal groups.
- If you divide 8 counters into fourths, each fourth has _____ counters.
- If you divide 16 counters into halves, each half has _____ counters.
- If you divide 24 counters into eighths, each eighth has _____ counters.
- If you divide 21 counters into thirds, each third has _____ counters.

- The **denominator** tells how many equal groups to make. Divide the set by this number.
- The **numerator** tells how many of the groups to count.

$\frac{1}{4}$ ← Numerator
← Denominator

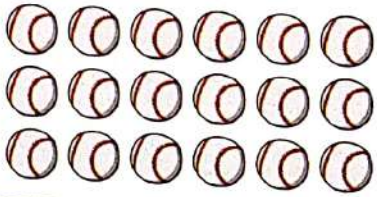
Use the counters to find $\frac{1}{2}$ of 8.

_____

Math tip

Be sure to arrange the counters in equal groups.

Use the counters to find $\frac{1}{3}$ of 18.



_____

Notes for parents

- Help your child to make equal groups and then tell how many in one group.

Solve. You may use counters or draw a picture to help.

Find $\frac{1}{2}$ of 18 _____	Find $\frac{1}{7}$ of 21 _____
Find $\frac{1}{4}$ of 8 _____	Find $\frac{1}{3}$ of 9 _____
Find $\frac{1}{6}$ of 18 _____	Find $\frac{1}{4}$ of 16 _____
Find $\frac{1}{8}$ of 24 _____	Find $\frac{1}{5}$ of 25 _____
Find $\frac{1}{3}$ of 27 _____	Find $\frac{1}{4}$ of 20 _____
Find $\frac{1}{6}$ of 36 _____	Find $\frac{1}{4}$ of 36 _____
Find $\frac{1}{9}$ of 90 _____	Find $\frac{1}{7}$ of 35 _____
Find $\frac{1}{5}$ of 30 _____	Find $\frac{1}{10}$ of 10 _____

• Help your child to think about division to solve each problem in this page.

Compare, write < , > or =.

$\frac{1}{6}$ of 24	☐	$\frac{1}{4}$ of 12	$\frac{1}{3}$ of 18	☐	$\frac{1}{5}$ of 25
$\frac{1}{2}$ of 8	☐	$\frac{1}{3}$ of 21	$\frac{1}{7}$ of 28	☐	$\frac{1}{8}$ of 32
$\frac{1}{9}$ of 9	☐	$\frac{1}{5}$ of 10	$\frac{1}{6}$ of 12	☐	$\frac{1}{3}$ of 6
$\frac{1}{4}$ of 36	☐	$\frac{1}{6}$ of 60	$\frac{1}{8}$ of 48	☐	$\frac{1}{2}$ of 16

Solve each of the following.

- Wael had 12 pounds and gave away $\frac{1}{4}$ of them.
  How many pounds did he give way ?

- Amira had 10 pencils. She sharpened $\frac{1}{5}$ of them.
  How many pencils did she sharpen ?

- Adel and his sister will each get $\frac{1}{2}$ of the money they make selling marbles.
  If they make 18 L.E.
  How much money will each one get ?

Notes for parents

- Ask your child how he/she compare unit fractions. Ask him/her to look at the denominators.

Read and solve.

- Suppose you slept for $\frac{1}{3}$ of a day.

  How much hours did you sleep ?

  (Hint : A day has 24 hours.)

_____

- Summer lasts for $\frac{1}{4}$ of the year.

  How many months does summer last ?

  (Hint : A year has 12 months.)

_____

Answer each of the following. Draw a model in the box to explain your thinking.

Would you rather have $\frac{1}{2}$ or $\frac{1}{4}$ of a pizza ?

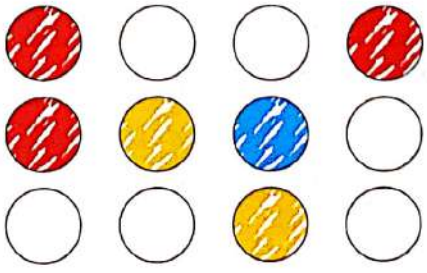
If you do not like the item, you can decided to choose the smaller amount of it.

Would you rather have $\frac{1}{6}$ or $\frac{1}{8}$ of a bottle of juice ?

Challenge

Complete coloring circles to show the following.

- $\frac{1}{2}$ of the circles are red.
- $\frac{1}{6}$ of the circles are blue.
- $\frac{1}{3}$ of the circles are yellow.

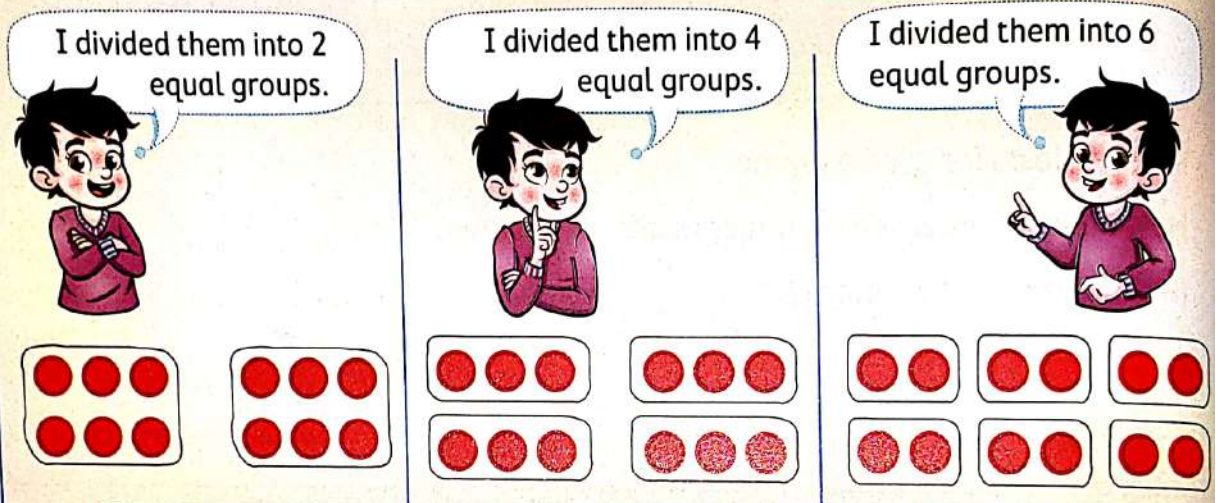


- Help your child to connect fractions with his/her life.
- Ask him/her to tell a story relate with fractions.

Learn The relation between fractions and division

Ahmad has 12 counters.

He divided them into equal groups in different ways.



$12 \div 2 = 6$

12 was divided into 2 halves. Each half has 6 counters.

$\frac{1}{2}$ of 12 is 6

$12 \div 4 = 3$

12 was divided into 4 fourths. Each fourth has 3 counters.

$\frac{1}{4}$ of 12 is 3

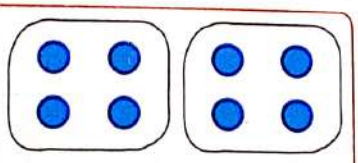
$12 \div 6 = 2$

12 was divided into 6 sixths. Each sixth has 2 counters.

$\frac{1}{6}$ of 12 is 2

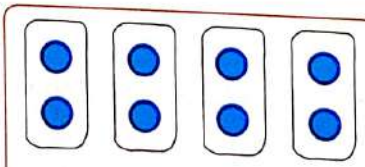
Check

Eight counters are divided into equal groups, complete.



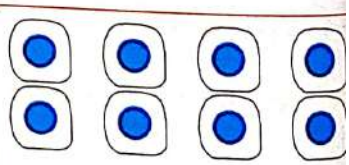
8 ÷ _____ = _____

The fraction that represents is each group is _____



8 ÷ _____ = _____

The fraction that represents each group is _____



8 ÷ _____ = _____

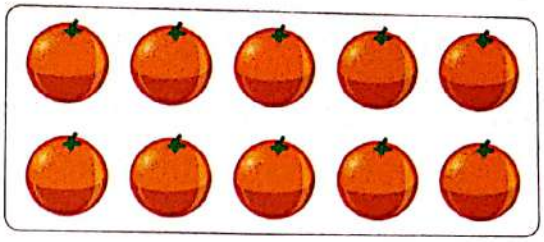
The fraction that represents each grou is _____

Notes for parents

- Help your child to make a connection between fractions and division.

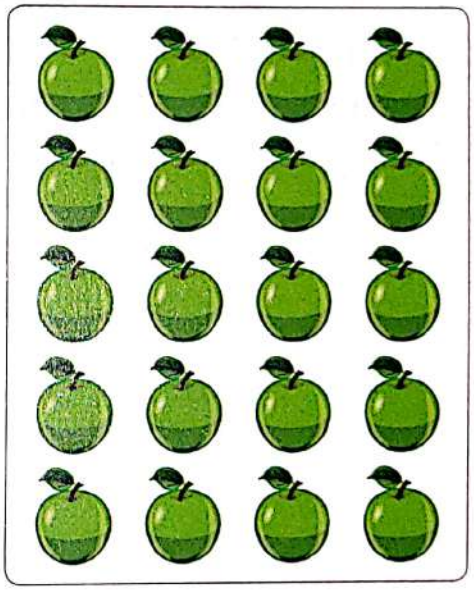
Practice

Sarah has 10 oranges, she want to divide them between 2 friends equally.



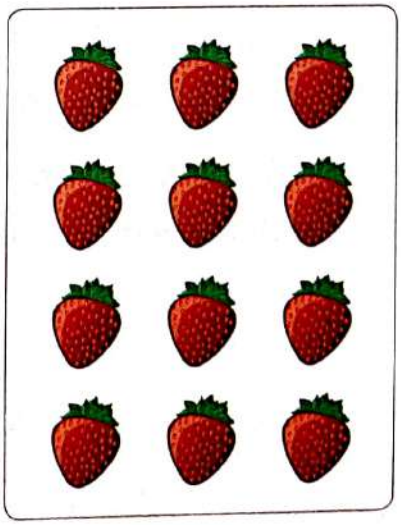
- How many oranges will each friend get ? _____
- What fraction of the whole would each one receive ? _____

Ahmed has 20 apples, he splits the apples evenly between 4 friends.



- How many apples will each friend get ? _____
- What fraction of the whole would each one receive ? _____

Sameh has 12 strawberries, if he splits the strawberries evenly between 3 friends.



- How many strawberries will each friend get ? _____
- What fraction of the whole would each one receive ? _____

8 friends bought a pizza to share equally.
What fraction of the pizza will each friend get ?

"Write your answer as a division problem and as a fraction".

3 brothers bought a bar of chocolate to share equally.
What fraction of the bar of chocolate will each brother get ?

"Write your answer as a division problem and as a fraction".

Shady bought a 6-pack of soda to give equally to his 6 guests. How many cans of soda will each guest receive ?

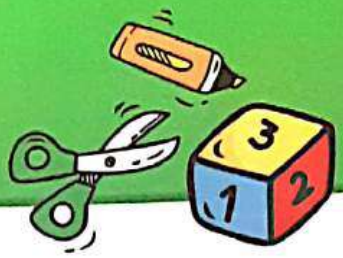
"Write your answer as a division problem and as a fraction".

Notes for parents

- Ask your child to explain the relation between fractions and division. He/she can use words, numbers, pictures and examples to explain his/her thinking.

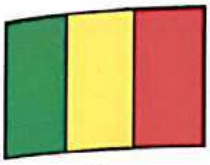
Place a smiley face

Activity
Chapter 2

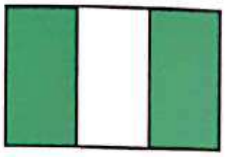


Flags of Africa

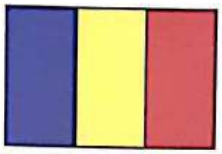
Five students were studying African countries. They each drew and colored the flag of the country they were studying. From the clues, decide who colored each flag.



A



B



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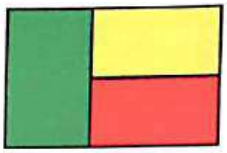

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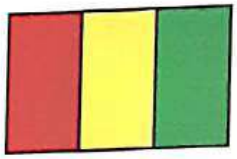


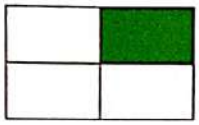
E

- Adel said, "Sara's flag and my flag are both $\frac{1}{3}$ red, with the red stripe on the right".
- Fady said, "The thirds on my flag are not the same as the thirds on all the other flags".
- Ahmed said, "My flag has the same colors as Adel's flag and Fady's flag".
- Shady said, "My flag is $\frac{1}{3}$ white".
- **Challenge :** Do research to find the name of each country being studied.

Extra Practice

Chapter 2

1 Write the fraction for the shaded part.



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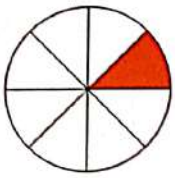

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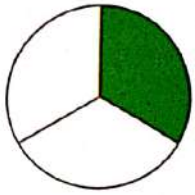

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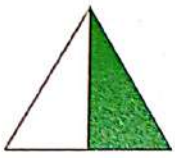

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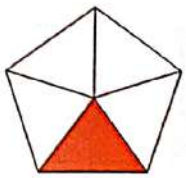

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2 Compare with "> or <".

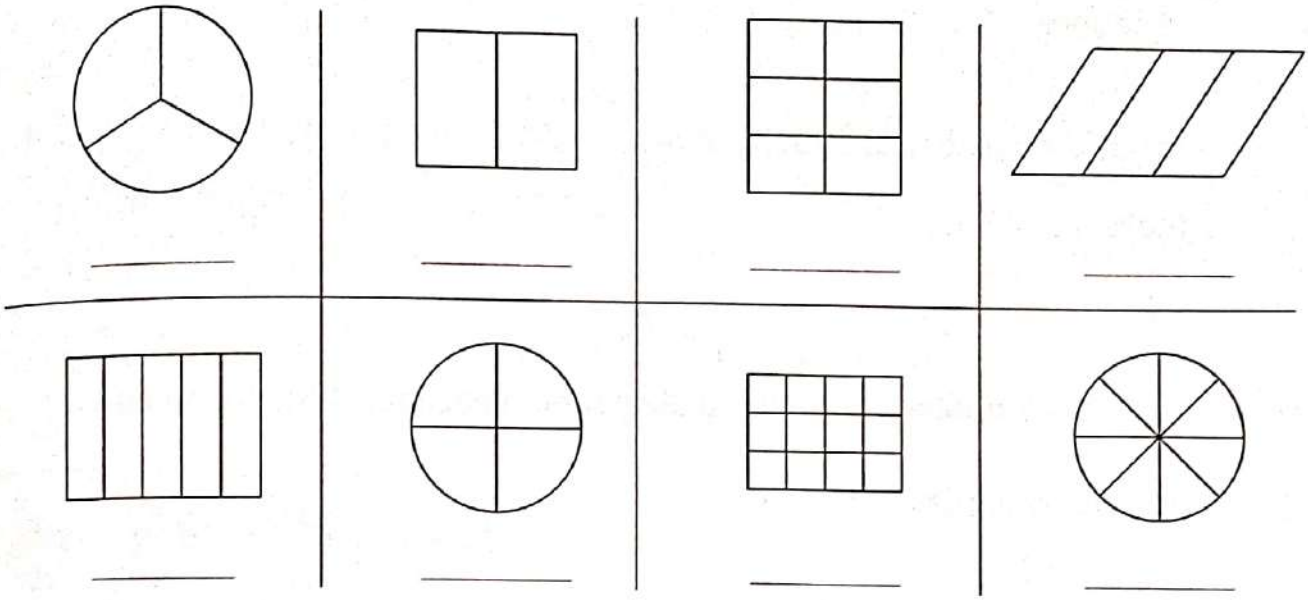
$\frac{1}{3} \bigcirc \frac{1}{6}$	$\frac{1}{7} \bigcirc \frac{1}{2}$	$\frac{1}{5} \bigcirc \frac{1}{8}$
$\frac{1}{6} \bigcirc \frac{1}{4}$	$\frac{1}{8} \bigcirc \frac{1}{7}$	$\frac{1}{12} \bigcirc \frac{1}{10}$
$\frac{1}{2} \bigcirc \frac{1}{5}$	$\frac{1}{4} \bigcirc \frac{1}{7}$	$\frac{1}{3} \bigcirc 1$

3 Match each with its meaning.

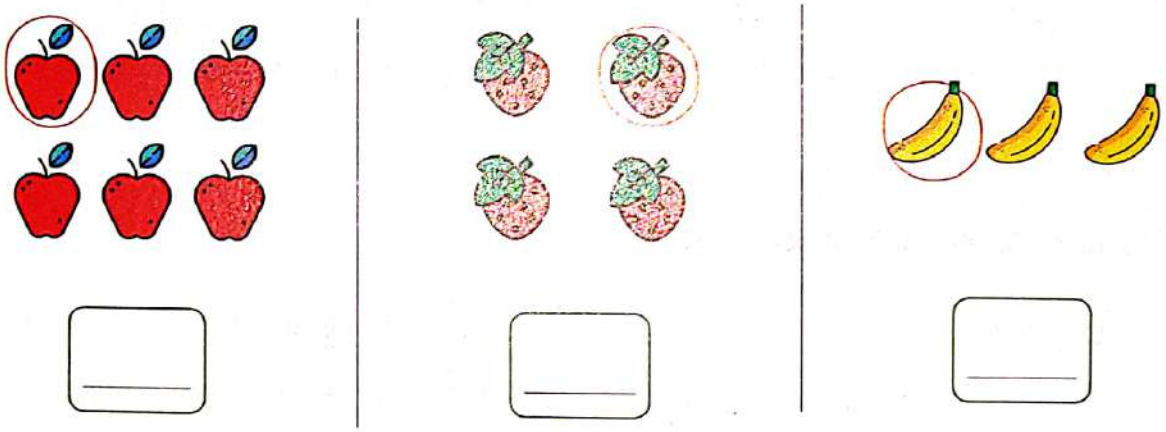
numerator	bottom number of a fraction
denominator	fraction with a numerator of 1
unit fraction	top number of a fraction
fraction	a comparison of equal parts to a whole

• In this practice your child will review on all what he/she had learned in chapter 2

4 Name the equal parts of each whole.



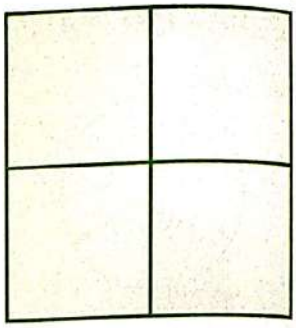
5 Write a fraction to show what part of each set is circled.



6 Circle the correct answer.

- Which is more ? (half of a watermelon or half of a banana)
- Which is longer ? (half of dinner time or half of a day)
- Which is more ? (half an hour or half a minute)

7 • Write the unit fraction of each part of square. _____

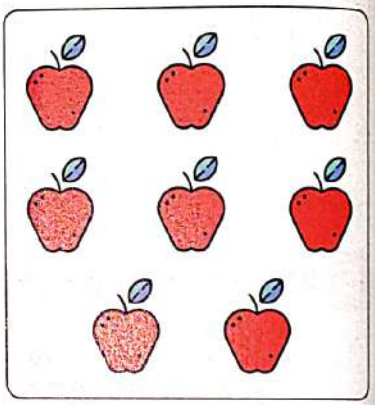


• What the number of fourths that make one whole ? _____

8 Esslam has 8 apples, he wants to divide them between 4 friends equally.

• How many apples will each friend get ? _____

• What fraction of the whole would they each receive ? _____



9 **Find each of the following.**

$\frac{1}{4}$ of 24 = _____

$\frac{1}{6}$ of 12 = _____

$\frac{1}{8}$ of 8 = _____

$\frac{1}{2}$ of 18 = _____

$\frac{1}{3}$ of 9 = _____

$\frac{1}{2}$ of 10 = _____

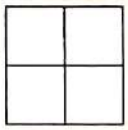
Assessment
Chapter 2

1 Complete.

① The fraction of white in Italy's flag is _____

② $\frac{1}{3}$ of 12 is _____

③ The fraction of red in Indonesia's flag is _____

④ The equal parts of  is _____

2 Choose the correct answer.

① $\frac{1}{7}$ ☐ $\frac{1}{3}$

○ > ○ < ○ =

② $1 = \frac{\quad}{7}$

○ 5 ○ 1 ○ 7

③ The number of fifths that make one whole = _____

○ 10 ○ 5 ○ 1

④ The equal parts of is _____

○ thirds ○ sixths ○ eighths

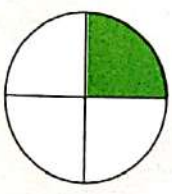
3 Answer the following.

① If you divided 20 counters into fourths, how many counters will be in each group ? _____

② Ahmed studies for $\frac{1}{8}$ of a day.

How many hours does he study ? _____

4 Write the unit fraction that represents the shaded part.



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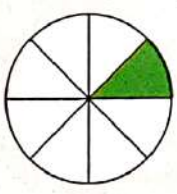

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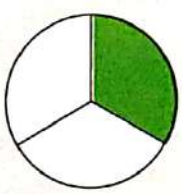

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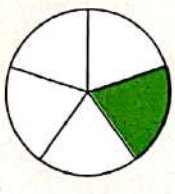

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Chapter 3

Outcomes

At the end of chapter three, your child will be able to:

Lessons 81 to 83

- Use models to show fractions on a number line.
- Show fractions on a number line to solve story problems.
- Given a fraction, explain the relationship between the number of equal parts on a number line and the denominator.
- Define numerator and denominator in his/her own words and provide examples.
- Locate unit fractions on a number line (0 to 1).
- Compare unit fractions on a number line between 0 and 1.

Lessons 84 to 86

- Model fractions with numerators greater than 1.
- Divide a number line into a given number of equal parts.
- Locate proper fractions on a number line.
- Draw models of fractions using shapes or sets.
- Count forward and backward by fractions.
- Read and write proper fractions.
- Compare unit and proper fractions.

Lesson 87

- Compare two fractions with the same denominator.
- Compare two fractions with the same numerator.
- Explain how to compare fractions.

Lesson 88

- Add two fractions with the same denominator.
- Explain the importance of common denominators when adding fractions.

Lesson 89

- Subtract fractions with the same denominator.
- Explain how to add and subtract fractions with common denominators.

Lesson 90

- Apply understanding of fractions to solve real-world problems.
- Write a real-world story problem involving fractions.

Key vocabulary

- Equal parts
- Thirds
- Eighths
- Unit fraction
- Proper fraction
- Common
- Fraction
- Fourths
- Number line
- Comparison
- Hypothesis
- Subtract
- Fractional part
- Fifths
- Denominator
- Greater than
- Add
- Difference
- Halves
- Sixths
- Numerator
- Less than
- Sum

Lessons 81 to 83

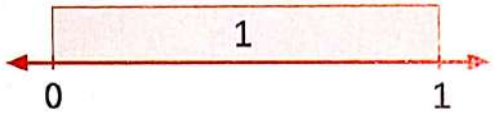
Comparing unit fractions using the number line

Learn How to represent fractions on the number line

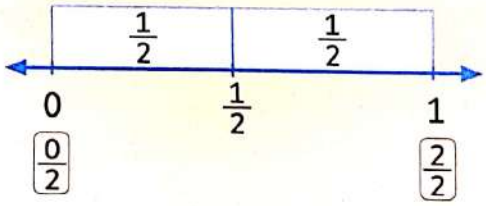
Activity 1 Materials : Fraction strips

You can use fraction strips to represent fractions on the number line.

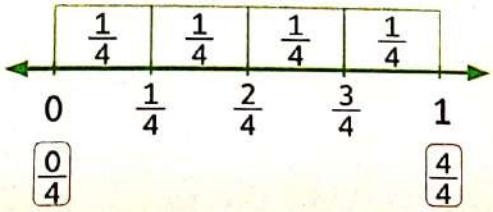
(a) Draw a line. Place the fraction strip for 1 above the line. Mark and label the point for 0 on the left and the point for 1 on the right.

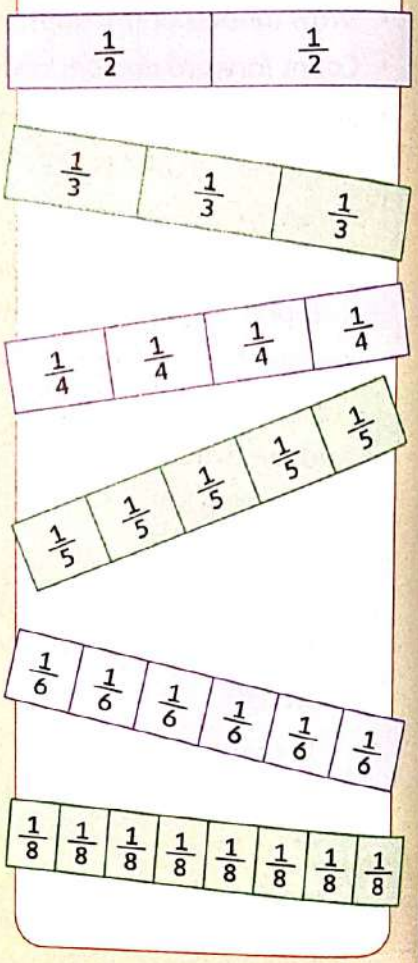


(b) Place fraction strips for halves above the line. Mark and label the point for $\frac{1}{2}$ at the middle between 0 and 1.



(c) Repeat steps to represent fourths.





Notes for parents

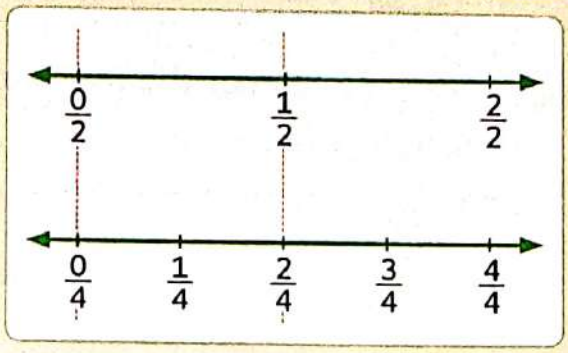
Connect :

- Tell your child a unit fraction, and ask him/her to draw more than one model to show you this fraction.

Remark

The points labeled $\frac{1}{2}$ and $\frac{2}{4}$ are the same distance from 0.

So, $\frac{1}{2} = \frac{2}{4}$



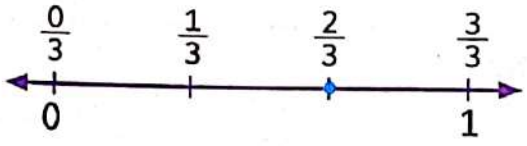
Activity 2 Materials : Ruler

You can use a ruler to represent fractions on the number line.

(a) Draw a line. Mark 0 on the left and mark 1 on the right. The space from 0 to 1 represents 1 whole.

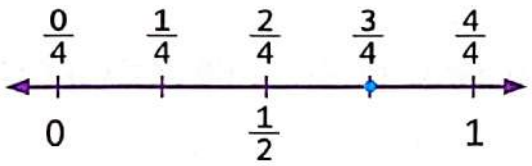
(b) The denominator of a fraction helps you to know the number of equal parts that you need to divide the space from 0 to 1.

This number line shows thirds.
It is divided into 3 equal parts.



The point shows the location of $\frac{2}{3}$.

This number line shows fourths.
It is divided into 4 equal parts.



The point shows the location of $\frac{3}{4}$.

- Although you have not yet introduced proper fractions beyond unit fractions, allow your child to label number lines with non-unit fractions (for example, $\frac{2}{4}$ and $\frac{3}{4}$). This will help him/her build familiarity with other fractions and their relationship to unit fractions.

Check

Represent each of the following on a number line.

1. halves

2. thirds

3. sixths

Practice

Draw a number line and represent fourths.

Work area

Draw a number line and represent sevenths.

Work area

Draw a number line and represent eighths.

Work area

Draw a number line and represent fifths.

Work area

Notes for parents

- Your child may use fractions strips or a ruler to represent fractions.

Bassem needs to warp presents. He lays the ribbon flat and says "If I make 4 equally spaced cuts, I will have just enough pieces. I can use 1 piece for each present." Draw a number line to show Bassem's ribbon and the cuts he will make.

Work area

- How many presents can Bassem warp ? _____
- What fraction of the whole ribbon is used for each present ? _____

Sara wanted to cut a 1-meter piece of rope into equal pieces for her 3 friends.

Draw a number line to show how she could cut the rope.

Work area

- What fraction of the rope does each friend get ? _____

• Ask your child to draw a number line that represents each story and answer the questions on the lines below.

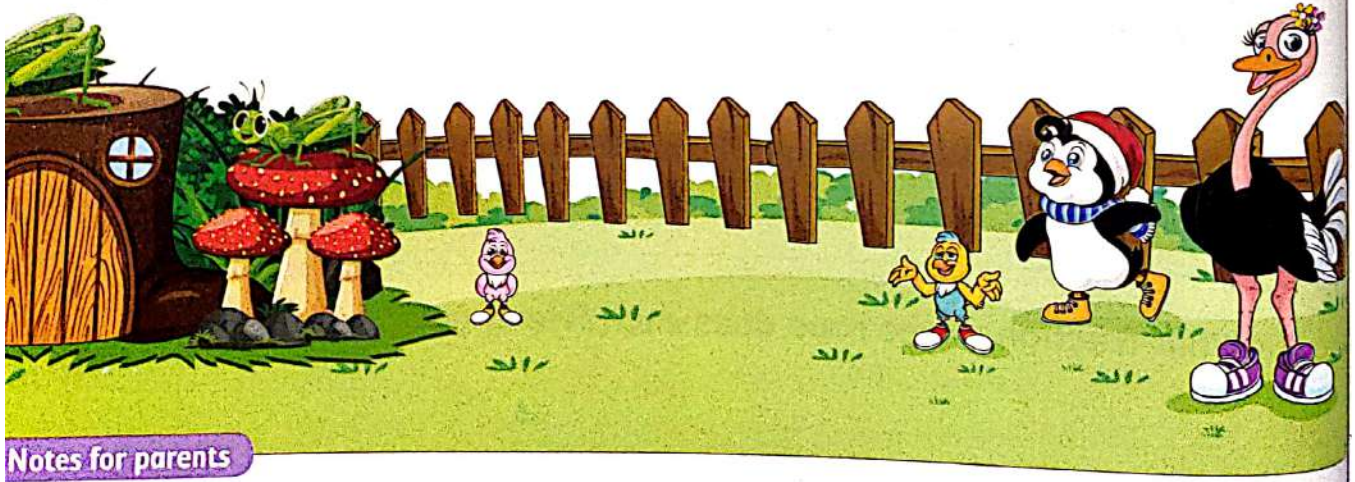
At the club, there is a straight 1-kilometer path. Every $\frac{1}{5}$ of the path, there is a market. Use the number line to identify where each market is located.

Work area

At a garden, there is a straight 1-kilometer path, a dustman puts a basket every $\frac{1}{8}$ of the path. Use the number line to identify where each basket is located.

Work area

- How many baskets can the dustman put ? _____



Notes for parents

- Help your child to divide each number line to equal parts according to each story.

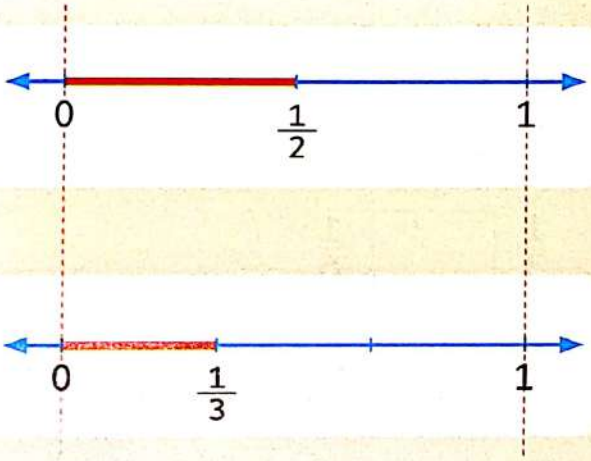
Learn — Comparing unit fractions using number line

- **You studied before how to compare unit fractions using fraction strips, in this lesson you will compare fractions using number line.**

Example : Compare $\frac{1}{2}$ and $\frac{1}{3}$

To compare $\frac{1}{2}$ and $\frac{1}{3}$, do as follows :

- **Draw a line.**
  Mark and label the points of 0 and 1, and then divide the distance between them into halves and label $\frac{1}{2}$.



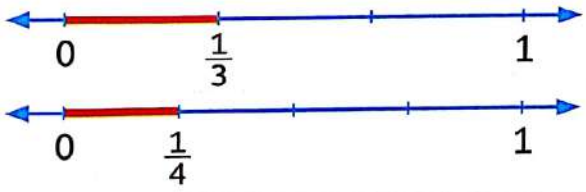
- **Draw another line below.**
  Be sure the points that correspond to 0 and 1 line up directly beneath one other. Divide the distance between 0 and 1 into thirds and label $\frac{1}{3}$.

Since the distance from the point 0 to the point $\frac{1}{2}$ is greater than the distance from the point 0 to the point $\frac{1}{3}$, then $\frac{1}{2} > \frac{1}{3}$

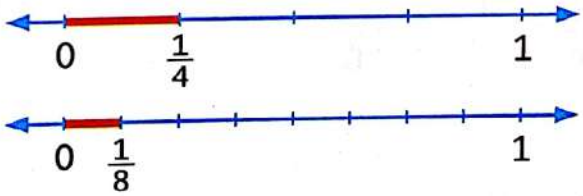
Check

Use the number lines to compare the fractions. Write < or >.

$\frac{1}{3}$ ☐ $\frac{1}{4}$



$\frac{1}{8}$ ☐ $\frac{1}{4}$

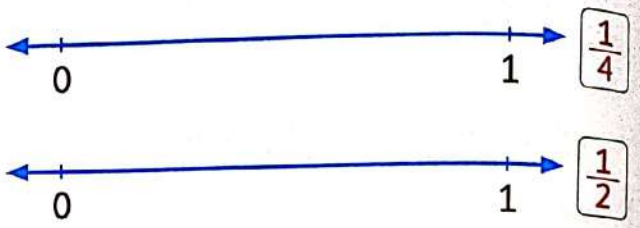


• Ask your child to compare $\frac{1}{2}$ and $\frac{1}{3}$ using fractions strips.

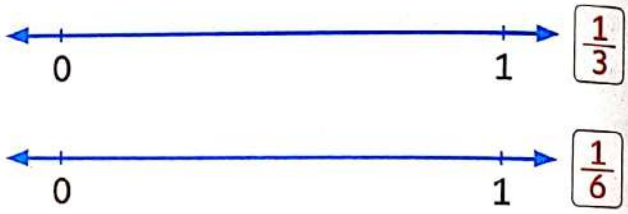
Practice

Use the number line to compare between two fractions. Write < or >.

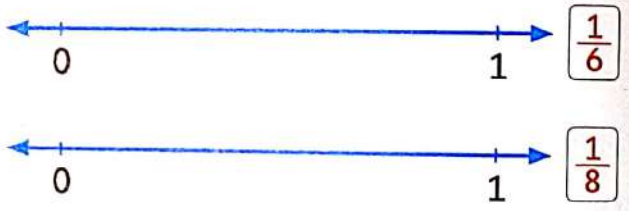
$\frac{1}{4}$ ☐ $\frac{1}{2}$



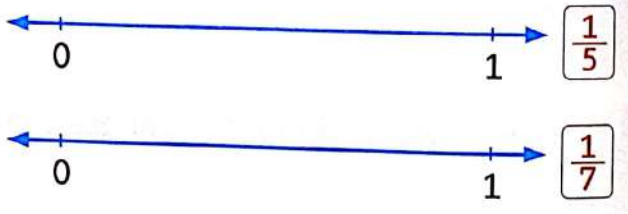
$\frac{1}{3}$ ☐ $\frac{1}{6}$



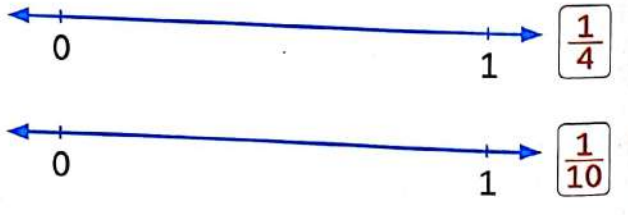
$\frac{1}{6}$ ☐ $\frac{1}{8}$



$\frac{1}{5}$ ☐ $\frac{1}{7}$



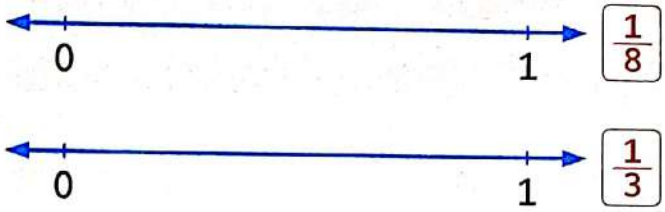
$\frac{1}{4}$ ☐ $\frac{1}{10}$



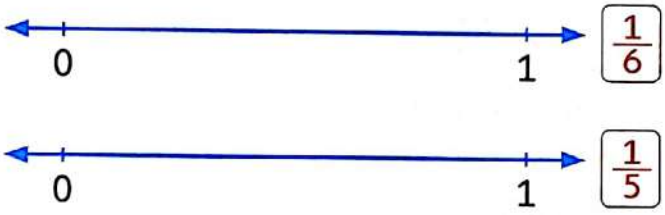
Notes for parents

- Ask your child to cut a string into halves and cut another string of the same length into fourths. Let him/her compare one peice of a string with one piece of the other string. Ask him/her which fractions is the greater $\frac{1}{2}$ or $\frac{1}{4}$.

$\frac{1}{8}$ ☐ $\frac{1}{3}$

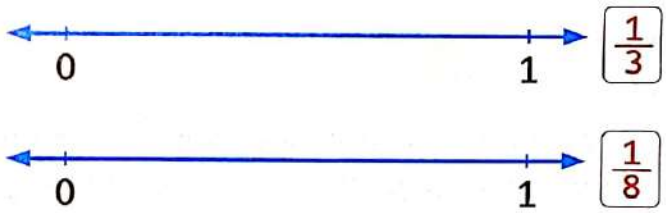


$\frac{1}{6}$ ☐ $\frac{1}{5}$

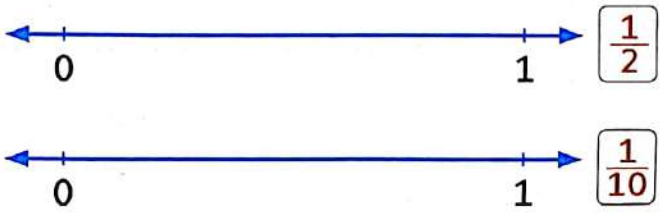


$\frac{1}{12}$ ☐ $\frac{1}{10}$

$\frac{1}{3}$ ☐ $\frac{1}{8}$



$\frac{1}{2}$ ☐ $\frac{1}{10}$



• Help your child to divide each line to equal parts according to the denominator to compare.

Tell if the sentence is true or false. Use the number line to help.

Draft

$\frac{1}{2}$ > $\frac{1}{8}$ _____

$\frac{1}{5}$ > $\frac{1}{4}$ _____

$\frac{1}{6}$ < $\frac{1}{2}$ _____

$\frac{1}{3}$ < $\frac{1}{9}$ _____

$\frac{1}{7}$ > $\frac{1}{10}$ _____

Challenge

- Marwan tell his brother that $\frac{1}{7}$ is greater than $\frac{1}{5}$ because 7 is more than 5. Do you agree or disagree with Marwan ? Circle on : Agree - Disagree
  Prove your thinking by drawing number lines to compare.

$\frac{1}{7}$ ⟷

$\frac{1}{5}$ ⟷

Notes for parents

- Ask your child to tell why $\frac{1}{9}$ is smaller than $\frac{1}{8}$.

Place a smiley face

Lessons 84 to 86

Comparing proper fractions (with like denominators)

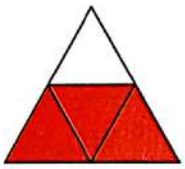
Learn — What is a proper fraction ?

- A proper fraction is a fraction its numerator is less than its denominator.

Note :
The unit fractions are also proper fractions.

Examples for proper fractions :

Proper fraction as parts from a whole



3 parts are red.

4 equal parts.

$\frac{3}{4}$ is red.

(Three fourths are red)

Proper fraction as parts of a set

2 yellow shirts.

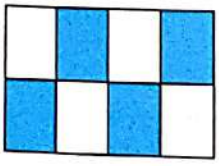
5 shirts in all.

$\frac{2}{5}$ of the shirts are yellow.

(Two fifths are yellow)

Check

Write the fraction for the shaded part of the shape.



_____ parts are blue.

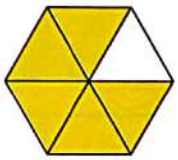
_____ equal parts.

_____ is blue.

_____ parts are green.

_____ equal parts.

_____ is green.



_____ parts are yellow.

_____ equal parts.

_____ is yellow.

Connect : Revise with your child the following :

- How he/she read and show data using line plots.
- How he/she write 4-digit numbers in expanded form (as : 1846 = 1000 + 800 + 40 + 6).

Write the fraction of the group that is blue.

_____ blue pants.

_____ pants in all.

_____ of the pants are blue.

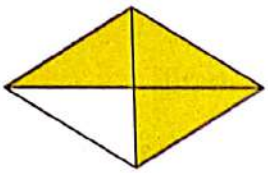
_____ blue sweaters.

_____ sweaters in all.

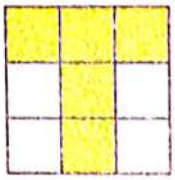
_____ of the sweaters are blue.

Practice

Write the fraction for the shaded part of the shape.

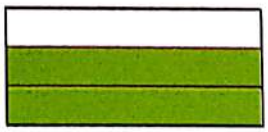


_____



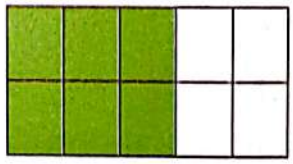
_____

_____



_____

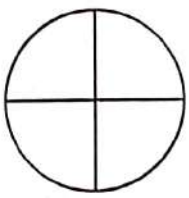
_____



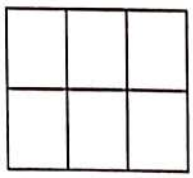
_____

Color to show the fraction.

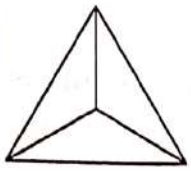
$\frac{2}{4}$



$\frac{5}{6}$



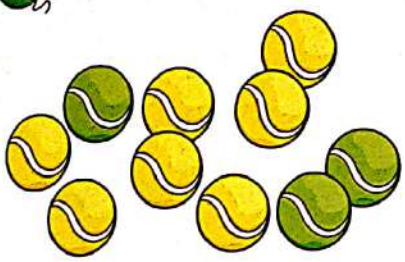
$\frac{2}{3}$



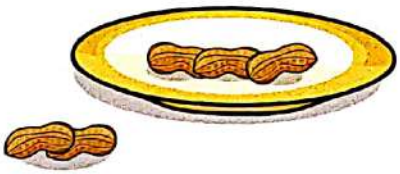
Notes for parents

- Draw a square and divide it into 4 equal parts. Color 3 of the parts. Have your child name the fraction that tells how much of the whole is colored.

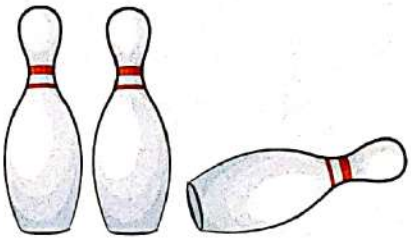
Write a fraction to complete each sentence.



_____ of the tennis balls are yellow.



_____ of the peanuts are in the plate.

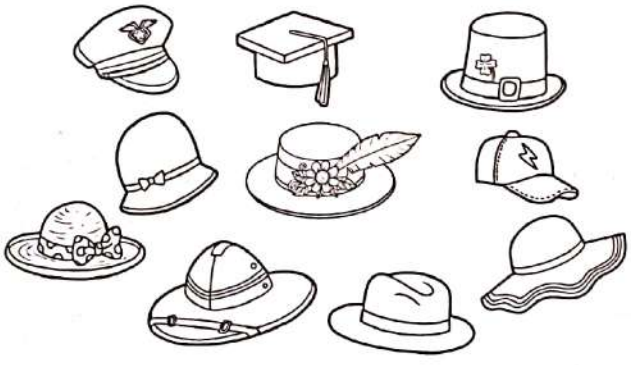


_____ of the bowling pins are standing up.

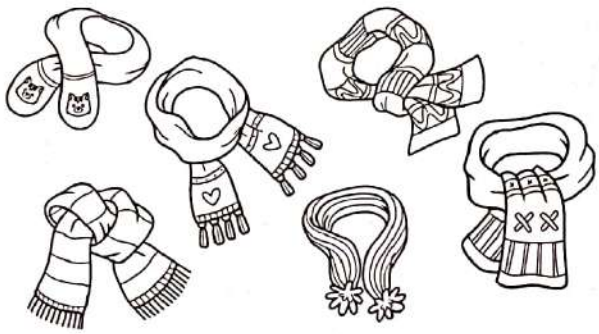
Color to show the fraction.

$\frac{6}{10}$ of the socks are red.

$\frac{5}{8}$ of the umbrellas are red.



$\frac{3}{10}$ of the hats are red.



$\frac{1}{6}$ of the scarves are red.

• Let your child bring his/her socks, then help him/her to write the fraction of socks with the same color.

Draw at least one model for the following fractions.

$\frac{3}{4}$	$\frac{4}{6}$
$\frac{3}{8}$	$\frac{2}{3}$
$\frac{5}{10}$	$\frac{7}{12}$
$\frac{7}{8}$	$\frac{5}{8}$

Challenge

- Hatem has 3 white shirts and 1 blue shirt. If he buys another blue shirt. What fraction is blue ? _____

- Samir has 12 marbles. He gives 3 marbles to a friend and 4 marbles to his sister. What fraction is left ? _____

Notes for parents

- Let your child draw a picture to show a fraction of a set of circles. Write a sentence that names the fraction.

Learn How to represent a proper fraction on a number line

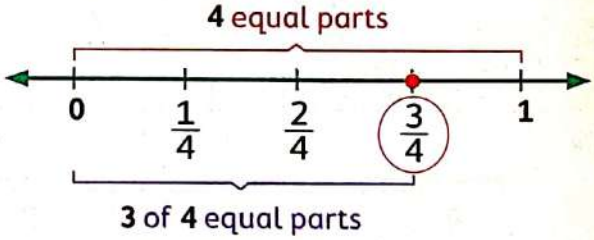
- Remember that you can divide the distance from **0** to **1** into equal parts and locate fractions on the number line.

Example 1 :

Locate $\frac{3}{4}$ on a number line.

To locate $\frac{3}{4}$ on a number line, divide the distance from **0** to **1** into **4** equal parts.

Locate a point to show **3** of the **4** equal parts.



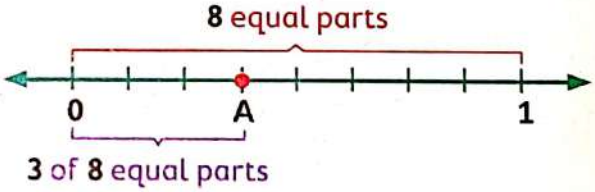
Example 2 :

What fraction represents point A ?

There are 8 equal parts between 0 and 1.

Point A shows 3 of the 8 equal parts.

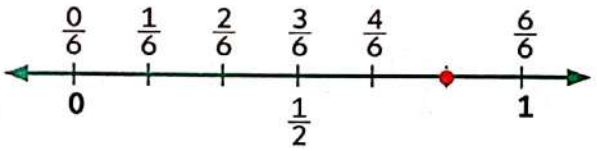
So, $\frac{3}{8}$ represents point A.



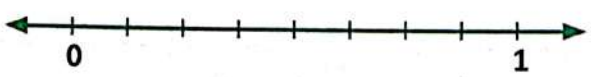
Check

What fraction names the point ?

(**Think** : *What number comes after 4 ?*)



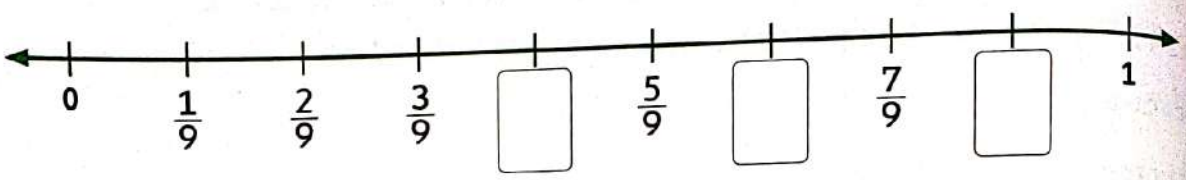
Locate the point for $\frac{5}{8}$ on the number line.

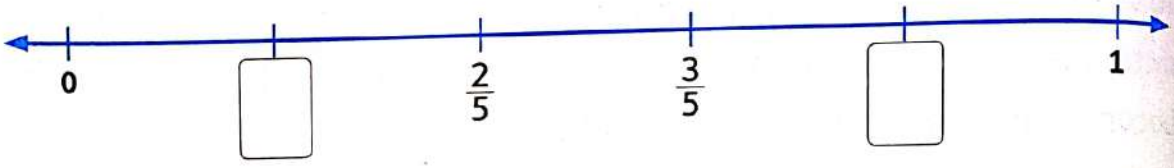


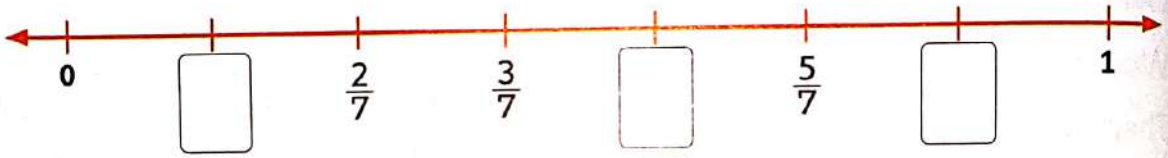
• Ask your child to locate $\frac{2}{8}$ on the number line at this page .

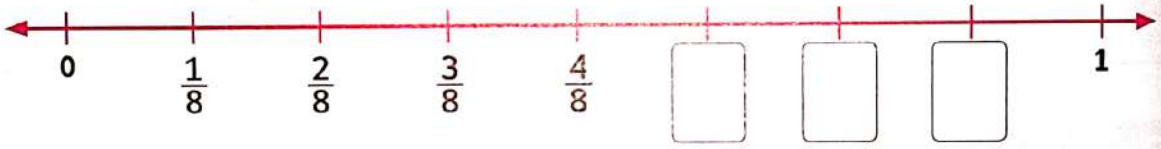
Practice

Complete the missing fraction in each number line.

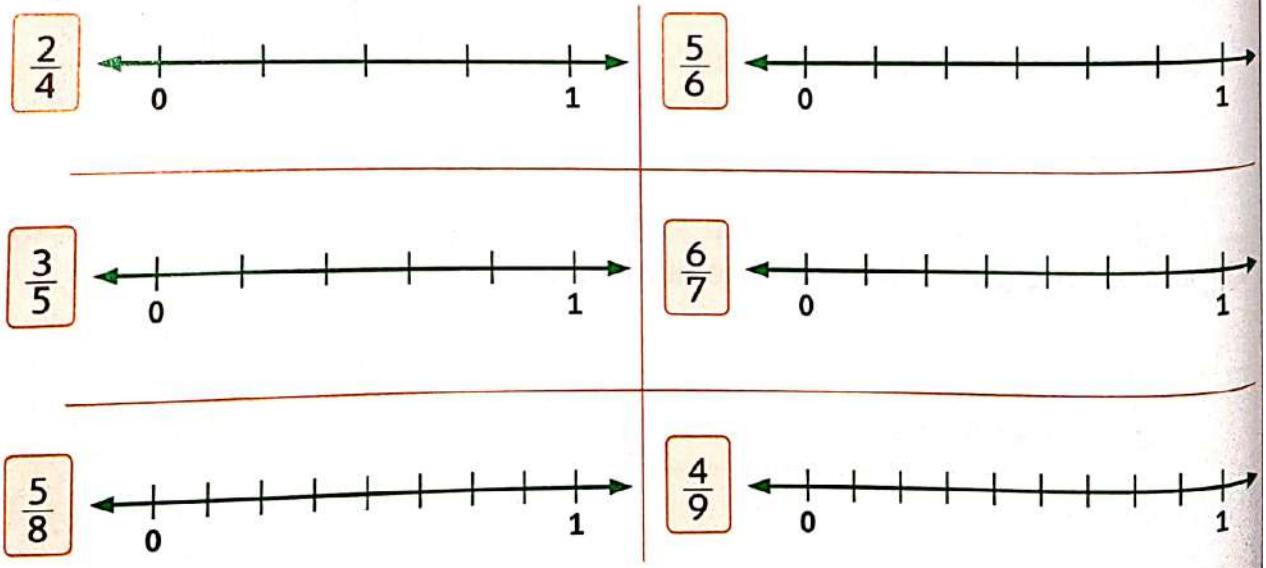








Locate a point to represent each fraction on the number line.



Notes for parents

- Help your child to think about what number comes next in numberator.

Divide the number line into.

thirds. Circle $\frac{2}{3}$.

halves. Circle $\frac{1}{2}$.

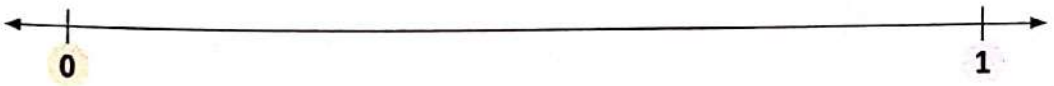
sixths. Circle $\frac{5}{6}$.

fourths. Circle $\frac{3}{4}$.

eighths. Circle $\frac{3}{8}$.

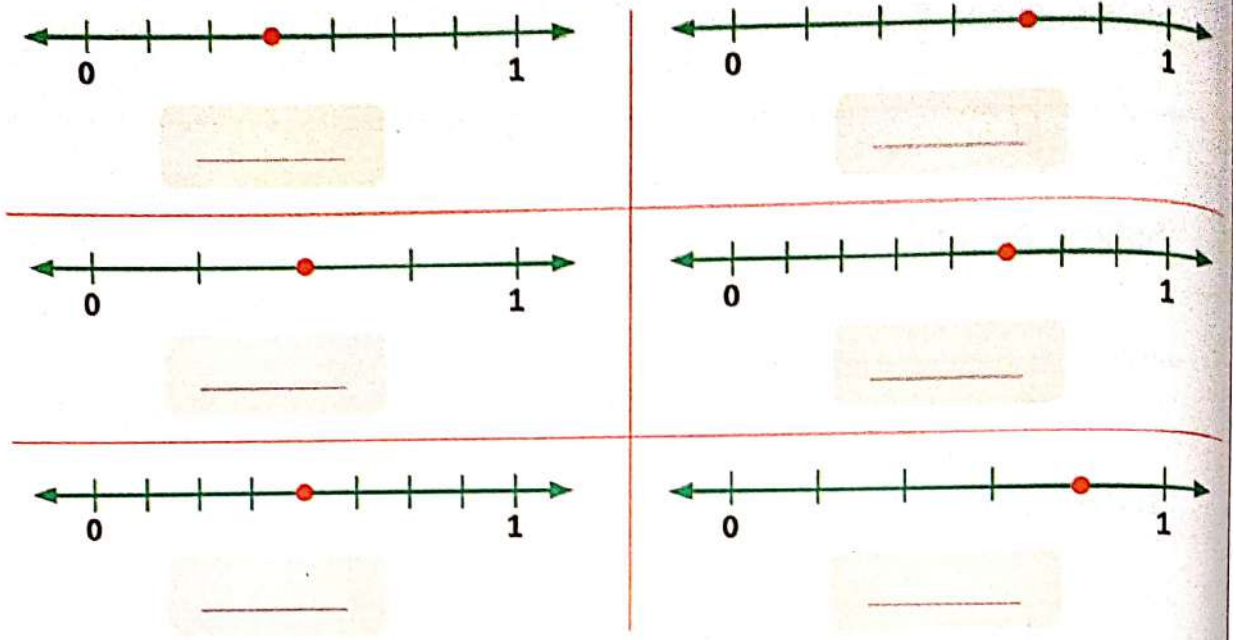
fifths. Circle $\frac{2}{5}$, $\frac{4}{5}$, $\frac{5}{5}$.

sixths. Circle $\frac{3}{6}$, $\frac{1}{6}$, $\frac{4}{6}$.



• Ask your child why we divide the distance from 0 to 1 into equal parts when we represent $\frac{5}{6}$.

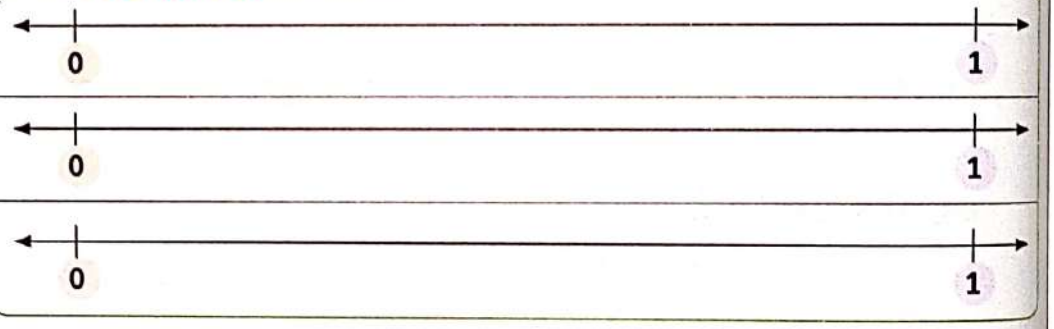
Write the fraction that names the point on each number line.



Locate a point to represent each fraction on the number line.

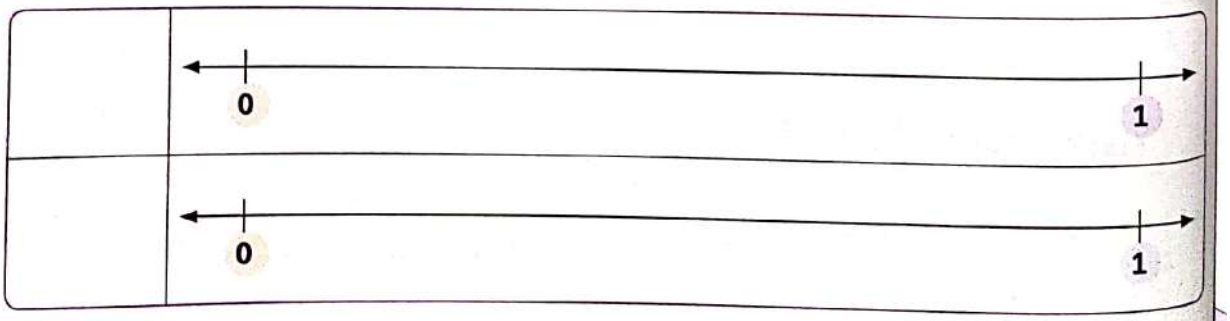
Work area

- $\frac{2}{6}$
- $\frac{5}{12}$
- $\frac{2}{8}$



Challenge

Directions : Choose two fractions and write them in the boxes to the left. Divide the number line for your fraction, label the fraction on the number line, and circle the fraction you chose. Finally, draw a model for your fraction using a shape or a set.



Notes for parents

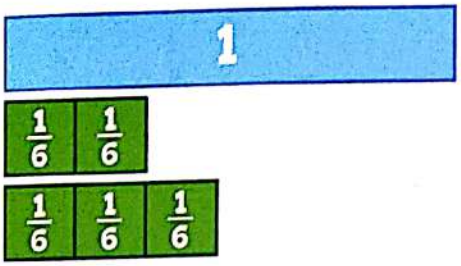
- Help your child to divide the distance from 0 to 1 into equal parts.

Learn How to compare proper fractions with like denominators

You can compare fractions in different ways.

Example Compare $\frac{2}{6}$ and $\frac{3}{6}$.

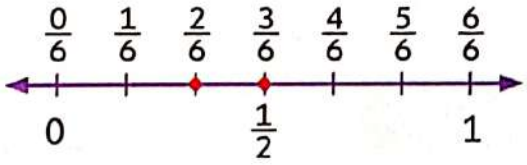
One way Use fraction strips.



The strips for $\frac{2}{6}$ are shorter than the strips for $\frac{3}{6}$.

So, $\frac{2}{6} < \frac{3}{6}$ or $\frac{3}{6} > \frac{2}{6}$

Another way Use number line.



$\frac{3}{6}$ is to the right of $\frac{2}{6}$.

It is closer to 1.

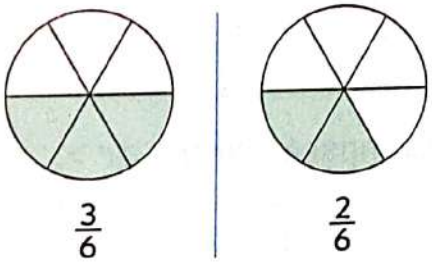
So, $\frac{3}{6} > \frac{2}{6}$ or $\frac{2}{6} < \frac{3}{6}$

Third way Use models.

The colored parts for $\frac{3}{6}$.

are greater than the colored parts for $\frac{2}{6}$.

So, $\frac{3}{6} > \frac{2}{6}$ or $\frac{2}{6} < \frac{3}{6}$



Mathematics Idea

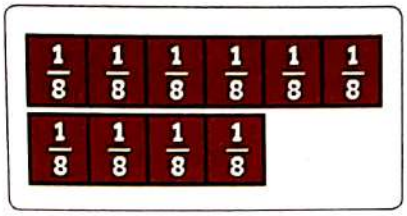
When comparing fractions with like denominators, the one with the greater numerator is greater.

$\frac{3}{6} > \frac{2}{6}$ because they have the same denominator "6" and 3 > 2.

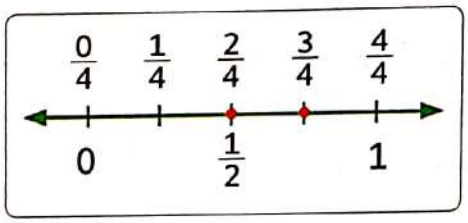
• Ask your child to compare $\frac{4}{6}$ and $\frac{5}{6}$ using different ways.

Check

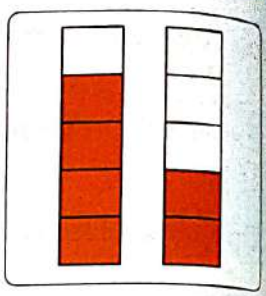
Compare using < or >.



$\frac{6}{8} \bigcirc \frac{4}{8}$



$\frac{2}{4} \bigcirc \frac{3}{4}$

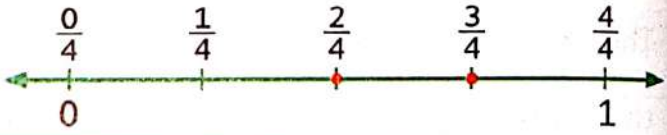


$\frac{4}{5} \bigcirc \frac{2}{5}$

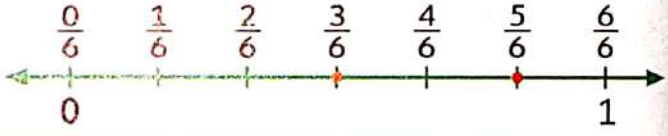
Practice

Compare using < or >.

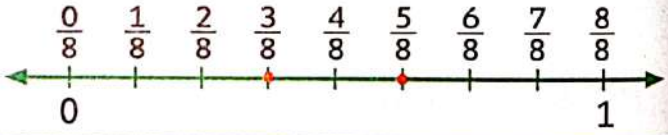
$\frac{3}{4} \bigcirc \frac{2}{4}$



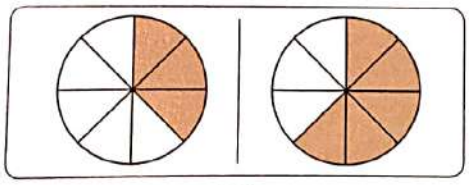
$\frac{3}{6} \bigcirc \frac{5}{6}$



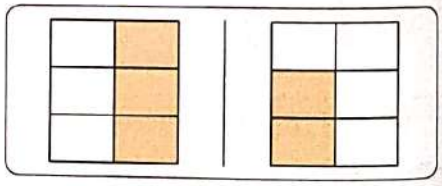
$\frac{5}{8} \bigcirc \frac{3}{8}$



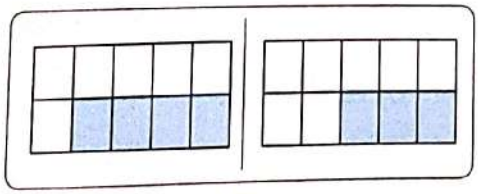
Compare using < or >.



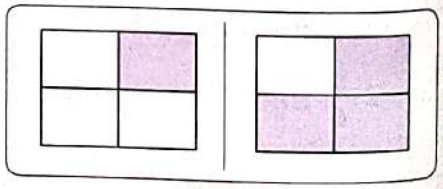
$\frac{3}{8} \bigcirc \frac{5}{8}$



$\frac{3}{6} \bigcirc \frac{2}{6}$



$\frac{4}{10} \bigcirc \frac{3}{10}$



$\frac{1}{4} \bigcirc \frac{3}{4}$

Notes for parents

- Ask your child to draw a model to compare $\frac{3}{4}$ and $\frac{2}{4}$.

Compare using < or >.

"You may draw number line to compare between fractions".

Work area

$\frac{3}{5}$ ◯ $\frac{2}{5}$

$\frac{1}{4}$ ◯ $\frac{2}{4}$

$\frac{4}{7}$ ◯ $\frac{3}{7}$

$\frac{2}{8}$ ◯ $\frac{4}{8}$

$\frac{2}{9}$ ◯ $\frac{7}{9}$

$\frac{4}{6}$ ◯ $\frac{3}{6}$

$\frac{2}{10}$ ◯ $\frac{7}{10}$

$\frac{3}{12}$ ◯ $\frac{2}{12}$

$\frac{7}{9}$ ◯ $\frac{8}{9}$

$\frac{4}{5}$ ◯ $\frac{5}{5}$

• Ask your child to check his/her answers using fraction strips.

Compare using < or >.

"Draw a model for each fraction using a circle, square, rectangle, ..."

$\frac{1}{4}$ ◯ $\frac{3}{4}$

Work area

$\frac{7}{8}$ ◯ $\frac{5}{8}$

$\frac{3}{5}$ ◯ $\frac{4}{5}$

$\frac{3}{8}$ ◯ $\frac{5}{8}$

$\frac{1}{5}$ ◯ $\frac{4}{5}$

$\frac{2}{6}$ ◯ $\frac{1}{6}$

Work area

$\frac{2}{3}$ ◯ $\frac{1}{3}$

$\frac{3}{7}$ ◯ $\frac{5}{7}$

$\frac{2}{3}$ ◯ $\frac{3}{3}$

$\frac{6}{6}$ ◯ $\frac{5}{6}$

Notes for parents

- Ask your child to check his/her answers using fraction strips.

Cricle the correct fraction.

$\frac{3}{6} < \square$

$\frac{5}{6}$ or $\frac{2}{6}$

$\frac{6}{8} < \square$

$\frac{5}{8}$ or $\frac{7}{8}$

$\frac{4}{9} > \square$

$\frac{2}{9}$ or $\frac{5}{9}$

$\frac{4}{5} > \square$

$\frac{2}{5}$ or 1

$\square < \frac{5}{7}$

$\frac{3}{7}$ or $\frac{6}{7}$

$\square > \frac{2}{4}$

$\frac{1}{4}$ or $\frac{3}{4}$

Challenge

Wael made a candle at the carnival. He made $\frac{2}{8}$ of it blue, $\frac{4}{8}$ of it yellow, and $\frac{2}{8}$ of it green.

Which color did he use the most ?

Place a smiley face

- Ask your child to compare numerators to choose which fraction is greater when comparing fractions with like denominators.

Lesson

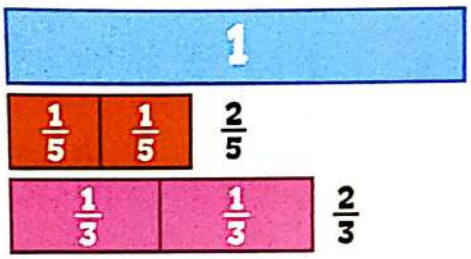
87 Comparing proper fractions (with like numerators)

Learn How to compare proper fractions with like numerators

You can compare fractions in different ways.

Example Compare $\frac{2}{5}$ and $\frac{2}{3}$.

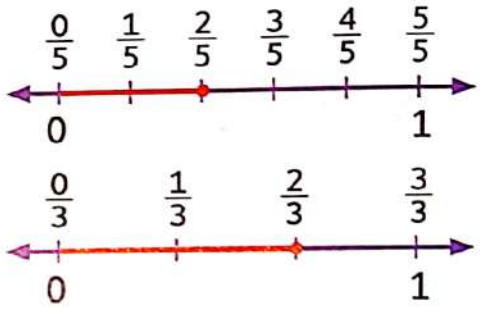
One way Use fraction strips.



The strips for $\frac{2}{5}$ are shorter than the strips for $\frac{2}{3}$.

So, $\frac{2}{5} < \frac{2}{3}$ or $\frac{2}{3} > \frac{2}{5}$

Another way Use a number line.



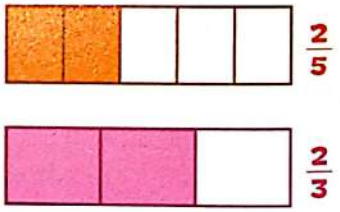
The distance from 0 to $\frac{2}{5}$ is shorter than the distance from 0 to $\frac{2}{3}$.

So, $\frac{2}{5} < \frac{2}{3}$ or $\frac{2}{3} > \frac{2}{5}$

Third way Use models.

The colored parts of $\frac{2}{5}$ is less than the colored parts of $\frac{2}{3}$.

So, $\frac{2}{5} < \frac{2}{3}$ or $\frac{2}{3} > \frac{2}{5}$



Mathematics Idea

When comparing fractions with like numerators, the one with greater denominator is smaller.

$\frac{2}{5} < \frac{2}{3}$ because they have the same numerator "2" and $5 > 3$.

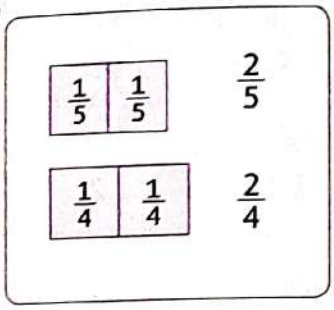
Notes for parents

Connect :

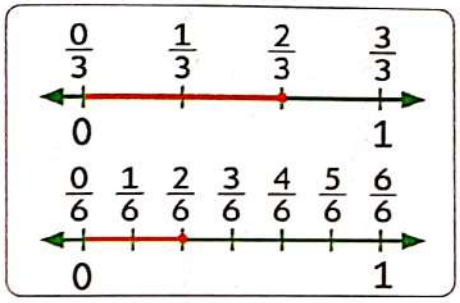
- Ask your child what is the different ways to share 2 square cakes among 4 children, so that each child get the same amount.

Check

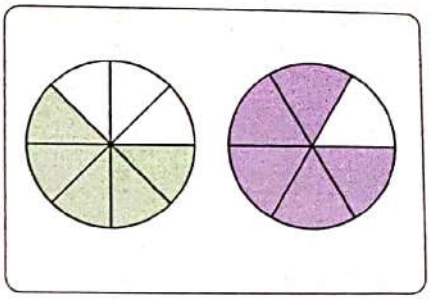
Compare. Write < or >.



$\frac{2}{5} \bigcirc \frac{2}{4}$



$\frac{2}{3} \bigcirc \frac{2}{6}$

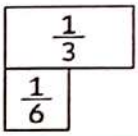


$\frac{5}{8} \bigcirc \frac{5}{6}$

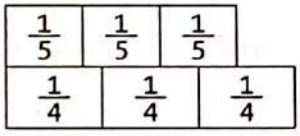
Practice

Compare. Write < or >.

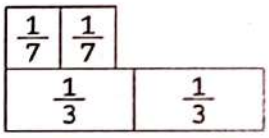
$\frac{1}{3} \bigcirc \frac{1}{6}$



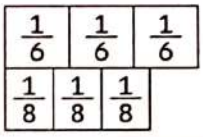
$\frac{3}{5} \bigcirc \frac{3}{4}$



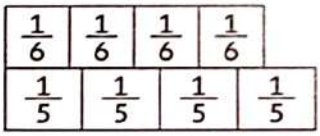
$\frac{2}{7} \bigcirc \frac{2}{3}$



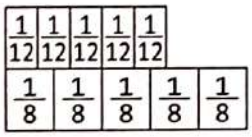
$\frac{3}{6} \bigcirc \frac{3}{8}$



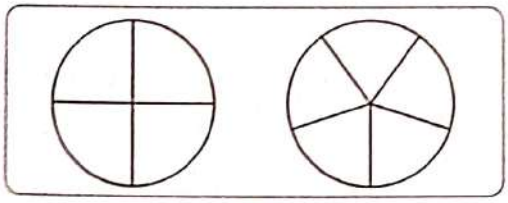
$\frac{4}{6} \bigcirc \frac{4}{5}$



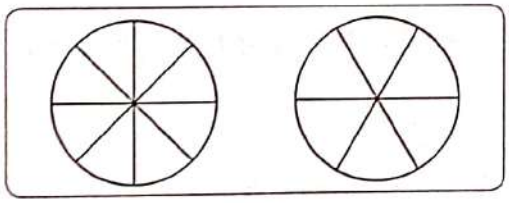
$\frac{5}{12} \bigcirc \frac{5}{8}$



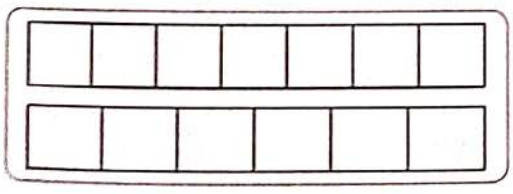
Color according to each fraction. Compare. Write < or >.



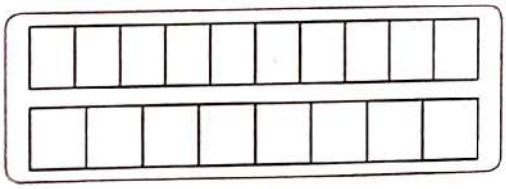
$\frac{3}{4} \bigcirc \frac{3}{5}$



$\frac{4}{8} \bigcirc \frac{4}{6}$



$\frac{5}{7} \bigcirc \frac{5}{6}$



$\frac{6}{10} \bigcirc \frac{6}{8}$

• Help your child to use his/her fraction strips to compare fractions.

Compare. Write < or >. You may use fraction strips.

$\frac{3}{7}$ ◯ $\frac{3}{5}$	$\frac{5}{8}$ ◯ $\frac{5}{10}$	$\frac{3}{6}$ ◯ $\frac{3}{8}$
$\frac{2}{8}$ ◯ $\frac{2}{5}$	$\frac{4}{7}$ ◯ $\frac{4}{6}$	$\frac{5}{10}$ ◯ $\frac{5}{12}$
$\frac{6}{8}$ ◯ $\frac{6}{7}$	$\frac{7}{10}$ ◯ $\frac{7}{9}$	$\frac{1}{8}$ ◯ $\frac{1}{10}$
$\frac{8}{9}$ ◯ $\frac{8}{10}$	$\frac{2}{2}$ ◯ $\frac{2}{3}$	$\frac{3}{5}$ ◯ $\frac{3}{3}$

Circle the smaller fraction.

$\frac{2}{6}$ $\frac{2}{9}$	$\frac{3}{7}$ $\frac{3}{5}$	$\frac{5}{8}$ $\frac{5}{9}$
$\frac{4}{6}$ $\frac{4}{8}$	$\frac{6}{9}$ $\frac{6}{7}$	$\frac{2}{5}$ $\frac{2}{2}$
$\frac{7}{9}$ $\frac{7}{6}$	$\frac{4}{5}$ $\frac{4}{8}$	$\frac{9}{9}$ $\frac{9}{10}$

Circle the greater fraction.

$\frac{3}{5}$ $\frac{3}{6}$	$\frac{4}{8}$ $\frac{4}{6}$	$\frac{2}{4}$ $\frac{2}{8}$
$\frac{1}{5}$ $\frac{1}{4}$	$\frac{7}{9}$ $\frac{7}{10}$	$\frac{5}{5}$ $\frac{5}{6}$
$\frac{6}{8}$ $\frac{6}{7}$	$\frac{9}{10}$ $\frac{9}{12}$	$\frac{8}{10}$ $\frac{8}{8}$

Notes for parents

- Ask your child how he/she compare two fractions with like numerators (as : $\frac{3}{7}$ and $\frac{5}{7}$).

General problems on comparing fractions

Compare using < or >.

$\frac{3}{4}$ ◯ $\frac{1}{4}$	$\frac{2}{5}$ ◯ $\frac{1}{5}$	$\frac{4}{6}$ ◯ $\frac{5}{6}$
$\frac{5}{8}$ ◯ $\frac{4}{8}$	$\frac{2}{3}$ ◯ $\frac{1}{3}$	$\frac{3}{8}$ ◯ $\frac{6}{8}$
$\frac{5}{12}$ ◯ $\frac{7}{12}$	$\frac{7}{7}$ ◯ $\frac{5}{7}$	$\frac{4}{5}$ ◯ $\frac{1}{5}$

Compare using < or >.

$\frac{3}{7}$ ◯ $\frac{3}{5}$	$\frac{5}{8}$ ◯ $\frac{5}{10}$	$\frac{2}{8}$ ◯ $\frac{2}{5}$
$\frac{4}{8}$ ◯ $\frac{4}{10}$	$\frac{2}{7}$ ◯ $\frac{2}{3}$	$\frac{3}{6}$ ◯ $\frac{3}{8}$
$\frac{7}{10}$ ◯ $\frac{7}{12}$	$\frac{6}{8}$ ◯ $\frac{6}{7}$	$\frac{5}{10}$ ◯ $\frac{5}{12}$
$\frac{2}{2}$ ◯ $\frac{2}{5}$	$\frac{7}{7}$ ◯ $\frac{7}{8}$	$\frac{3}{5}$ ◯ $\frac{3}{3}$

Compare using < , > or =.

$\frac{3}{5}$ ◯ $\frac{4}{5}$	$\frac{3}{7}$ ◯ $\frac{3}{5}$	$\frac{7}{10}$ ◯ $\frac{7}{11}$
$\frac{3}{8}$ ◯ $\frac{5}{8}$	$\frac{5}{8}$ ◯ $\frac{5}{6}$	$\frac{3}{7}$ ◯ $\frac{2}{7}$
1 ◯ $\frac{3}{3}$	$\frac{5}{5}$ ◯ $\frac{6}{6}$	$\frac{3}{4}$ ◯ 1

• Train your child to use different ways to compare fractions.

Which fraction is greater $\frac{5}{6}$ or $\frac{2}{6}$? Show or explain your work in the box below, and then use < or > to record your answer.

- What is your hypothesis for comparing any fractions with the same denominator?

Test your hypothesis : Which fraction is greater $\frac{3}{10}$ or $\frac{5}{10}$? Use a model to prove your answer and then write a comparison statement with < or >.

- What other fractions could you use to test your hypothesis? Use models to prove your answer and then write a comparison statement with < or >.

Notes for parents

- Let your child to talk about his/her thinking to compare fractions.

Which fraction is greater $\frac{3}{5}$ or $\frac{3}{6}$? Show or explain your work in the box below, and then use < or > to record your answer.

- What is your hypothesis for comparing any fractions with the same numerator ?

Test your hypothesis : Which fraction is greater $\frac{5}{6}$ or $\frac{5}{8}$? Use a model to prove your answer and then write a comparison statement with < or >.

- What other fractions could you use to test your hypothesis ? Use models to prove your answer and then write a comparison statement with < or >.

• Let your child to talk about his/her thinking to compare fractions.

Place a smiley face

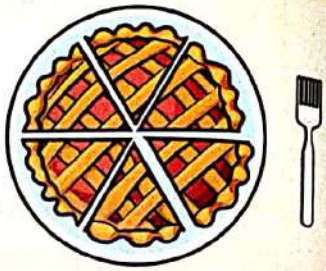
Lesson

88

Add fractions with common denominator

Learn

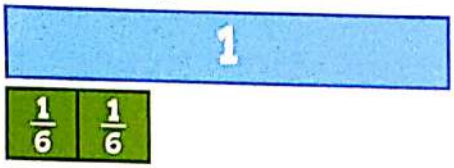
Ahmed cut a pie into 6 equal pieces.
He ate 2 pieces. Sara ate 1 piece.
What fraction of the pie did they eat in all ?
Add. $\frac{2}{6} + \frac{1}{6}$



To add follow the following steps using fraction strips.

Step 1

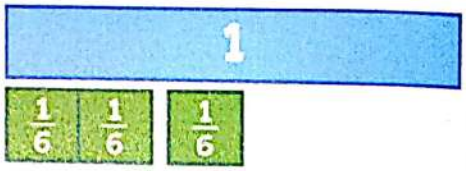
Line up two $\frac{1}{6}$ fraction bars under the bar for 1.



$\frac{2}{6}$

Step 2

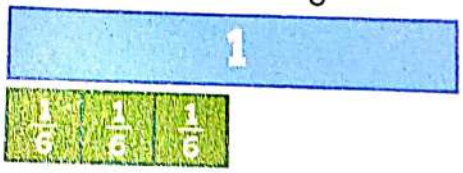
Add one more $\frac{1}{6}$ fraction bar.



$\frac{2}{6} + \frac{1}{6}$

Step 3

Count the number of $\frac{1}{6}$ fraction bars.



$\frac{1}{6}$, $\frac{2}{6}$, $\frac{3}{6}$ or $\frac{2}{6} + \frac{1}{6} = \frac{3}{6}$

So, Ahmed and Sara ate $\frac{3}{6}$ of the pie.

Mathematics Idea

To add fractions with common denominator, add the numerators and then write the sum over the common denominator.

$\frac{2}{6} + \frac{1}{6}$ (Think: 2 + 1 = 3)

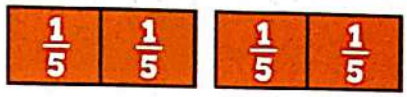
$= \frac{3}{6}$

Notes for parents

Connect : Remind your child how he/she order numbers from smallest to greatest. Give your child numbers as : 5,421 , 1,245 , 4,521 , 4,251 and ask him/her to put them is order from the smallest to the greatest and from the greatest to the smallest.

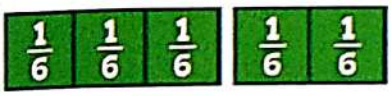
Check

What is the sum of $\frac{2}{5}$ and $\frac{2}{5}$?

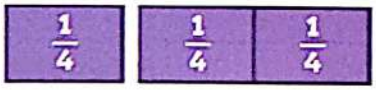


(Think: 2 + 2 = 4)

Find each sum.



$\frac{3}{6} + \frac{2}{6} =$ ☐

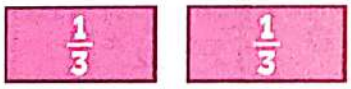


$\frac{1}{4} + \frac{2}{4} =$ ☐

$\frac{4}{12} + \frac{3}{12} =$ ☐

Practice

Find each sum.

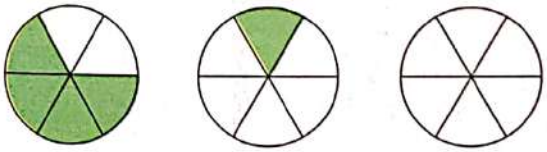


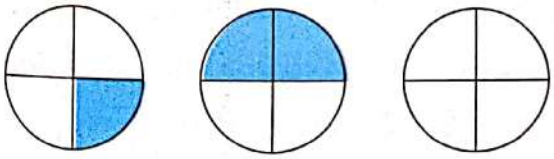
$\frac{1}{3} + \frac{1}{3} =$ ☐

$\frac{5}{8} + \frac{2}{8} =$ ☐

$\frac{2}{10} + \frac{1}{10} =$ ☐

Write the fraction according to the colored parts. Add and write the sum.





• Ask your child to model the two fractions $\frac{5}{8}$ and $\frac{3}{8}$, then find their sum.

Find each sum.

$\frac{1}{5}+\frac{1}{5}=$ ☐	$\frac{2}{10}+\frac{3}{10}=$ ☐	$\frac{1}{3}+\frac{2}{3}=$ ☐	$\frac{6}{12}+\frac{4}{12}=$ ☐
$\frac{4}{6}+\frac{1}{6}=$ ☐	$\frac{1}{4}+\frac{3}{4}=$ ☐	$\frac{2}{8}+\frac{4}{8}=$ ☐	$\frac{5}{10}+\frac{2}{10}=$ ☐
$\frac{2}{10}+\frac{2}{10}=$ ☐	$\frac{1}{5}+\frac{2}{5}=$ ☐	$\frac{3}{12}+\frac{8}{12}=$ ☐	$\frac{2}{8}+\frac{1}{8}=$ ☐

Find each sum. Write the answer.

$\frac{1}{6}+\frac{3}{6}=$ ☐ E	$\frac{1}{5}+\frac{1}{5}=$ ☐ K	$\frac{1}{8}+\frac{3}{8}=$ ☐ R	$\frac{2}{10}+\frac{1}{10}=$ ☐ B
$\frac{2}{4}+\frac{1}{4}=$ ☐ S	$\frac{3}{8}+\frac{2}{8}=$ ☐ T	$\frac{3}{5}+\frac{1}{5}=$ ☐ P	$\frac{5}{8}+\frac{2}{8}=$ ☐ E
$\frac{4}{10}+\frac{5}{10}=$ ☐ A	$\frac{6}{12}+\frac{4}{12}=$ ☐ N	$\frac{1}{6}+\frac{1}{6}=$ ☐ O	$\frac{4}{12}+\frac{4}{12}=$ ☐ Y

To answer the riddle, match the answers from above to the fractions below.

What kind of books does a panda read ?

___	___ ___ ___ ___ ___	___ ___ ___ ___
$\frac{9}{10}$	$\frac{3}{4}$ $\frac{5}{8}$ $\frac{2}{6}$ $\frac{4}{8}$ $\frac{8}{12}$	$\frac{3}{10}$ $\frac{2}{6}$ $\frac{2}{6}$ $\frac{2}{5}$

Challenge

- In the box below write and solve your own problem of adding two fractions with the same denominator.

Notes for parents

- Let your child explain how to find $\frac{2}{10}+\frac{5}{10}$ without using fraction strips or fraction models.

Place a smiley face

Lesson 89

Subtract fractions with common denominator

Learn

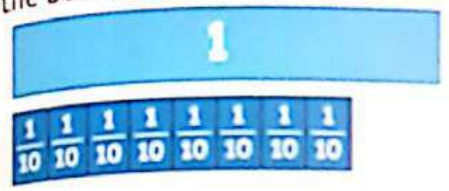
You can use fraction strips to subtract fractions with common denominator.

Subtract. $\frac{8}{10} - \frac{5}{10}$

To substract follow the following steps.

Step 1

Line up eight $\frac{1}{10}$ fraction bars under the bar for 1.



$\frac{8}{10}$

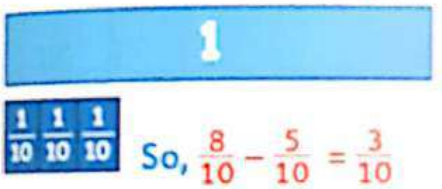
Step 2

Take away five $\frac{1}{10}$ fraction bars.

$\frac{8}{10} - \frac{5}{10}$

Step 3

Count the left number of $\frac{1}{10}$ fraction bars.



So, $\frac{8}{10} - \frac{5}{10} = \frac{3}{10}$

Mathematics Idea

To subtract fractions with common denominator, subtract the numerators and then write the difference over the common denominator.

$\frac{8}{10} - \frac{5}{10}$ (Think : 8 – 5 = 3)

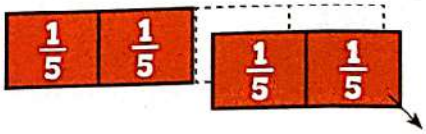
$= \frac{3}{10}$

Connect :

- Give your child an addition statement (as : $\frac{2}{8} + \frac{1}{8} = \frac{3}{16}$), ask him/her what is the error in this statement. Ask him/her to rewrite it in a right way.

Check

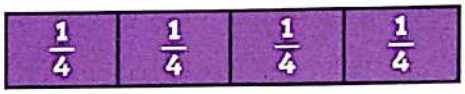
What is the difference ? $\frac{4}{5} - \frac{2}{5} =$ ☐



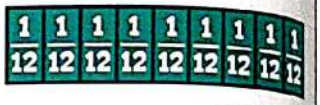
(Think: 4 – 2 = 2)

Find each difference.

$\frac{7}{8} - \frac{4}{8} =$ ☐



$\frac{4}{4} - \frac{1}{4} =$ ☐



$\frac{9}{12} - \frac{2}{12} =$ ☐

Practice

Find each difference.

$\frac{3}{6} - \frac{2}{6} =$ ☐

$\frac{4}{5} - \frac{1}{5} =$ ☐

$\frac{9}{10} - \frac{2}{10} =$ ☐

Find each difference.

$\frac{5}{8} - \frac{3}{8} =$ ☐	$\frac{2}{3} - \frac{1}{3} =$ ☐	$\frac{10}{12} - \frac{7}{12} =$ ☐	$\frac{6}{6} - \frac{3}{6} =$ ☐
$\frac{5}{10} - \frac{2}{10} =$ ☐	$\frac{11}{12} - \frac{9}{12} =$ ☐	$\frac{7}{8} - \frac{1}{8} =$ ☐	$\frac{2}{4} - \frac{1}{4} =$ ☐
$\frac{3}{3} - \frac{2}{3} =$ ☐	$\frac{4}{6} - \frac{1}{6} =$ ☐	$\frac{7}{10} - \frac{3}{10} =$ ☐	$1 - \frac{1}{12} =$ ☐

Compare. Write <, > or =.

$\frac{4}{5} - \frac{1}{5}$ ◯ $\frac{3}{5} - \frac{2}{5}$	$\frac{8}{10} - \frac{4}{10}$ ◯ $\frac{9}{10} - \frac{3}{10}$
$\frac{6}{6} - \frac{4}{6}$ ◯ $\frac{1}{6} + \frac{2}{6}$	$\frac{3}{8} + \frac{2}{8}$ ◯ $1 - \frac{2}{8}$

Notes for parents

- Let your child to explain how he/she compare fractions with common denominator.

Join.

$\frac{4}{5} - \frac{2}{5}$	$\frac{3}{10} + \frac{1}{10}$
$\frac{5}{10} + \frac{2}{10}$	$\frac{7}{8} - \frac{5}{8}$
$\frac{7}{10} - \frac{3}{10}$	$\frac{1}{8} + \frac{3}{8}$
$\frac{5}{8} - \frac{3}{8}$	$\frac{1}{5} + \frac{1}{5}$
$\frac{7}{8} - \frac{3}{8}$	$\frac{9}{10} - \frac{2}{10}$

Add or subtract to answer the riddle.

$\frac{1}{5} + \frac{2}{5} =$ ☐ R	$\frac{7}{10} - \frac{3}{10} =$ ☐ N	$\frac{3}{6} - \frac{1}{6} =$ ☐ O
$\frac{4}{8} + \frac{2}{8} =$ ☐ S	$\frac{5}{9} + \frac{1}{9} =$ ☐ T	$\frac{3}{8} - \frac{1}{8} =$ ☐ I
$\frac{11}{12} - \frac{1}{12} =$ ☐ F	$\frac{4}{8} + \frac{1}{8} =$ ☐ W	$\frac{1}{4} + \frac{1}{4} =$ ☐ P

What has four legs but cannot walk ?

___ ___ ___	___ A ___ ___ ___	___ ___	___ A ___ ___ ___
$\frac{6}{9}$ $\frac{5}{8}$ $\frac{2}{6}$	$\frac{2}{4}$ $\frac{1}{6}$ $\frac{2}{8}$ $\frac{3}{5}$ $\frac{6}{8}$	$\frac{2}{6}$ $\frac{10}{12}$	$\frac{2}{4}$ $\frac{1}{6}$ $\frac{4}{10}$ $\frac{6}{9}$ $\frac{6}{8}$

Challenge

In the box below, write your own fraction subtraction problem.
Draw a model to show your solution.

• Ask your child how to find $\frac{7}{10} - \frac{3}{10}$ without using fraction strips or fraction models.

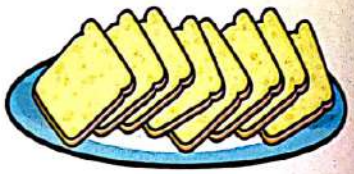
Place a smiley face

Lesson

90 Fraction story problems

Learn

Remember : **You can add fractions with common denominator by adding their numerators.**



Example Julie cut a loaf of bread into 8 slices. She ate 2 slices, or $\frac{2}{8}$ of the loaf. Sandy ate 3 slices or $\frac{3}{8}$ of the loaf. What fraction of the loaf did they eat in all ?

Add. $\frac{2}{8} + \frac{3}{8}$

Model

Add the number of $\frac{1}{8}$ slices that Julie and Sandy ate.

$\frac{2}{8}$ + $\frac{3}{8}$

Record

2 slices + 3 slices = 5 slices

$\frac{2}{8}$ + $\frac{3}{8}$ = $\frac{5}{8}$

So, Julie and Sandy ate $\frac{5}{8}$ of the loaf.

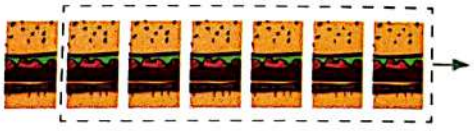
Remember : **You can subtract fractions with common denominator by subtracting their numerators.**

Example Maya had $\frac{7}{12}$ of a sub sandwich left to share with her friends. Her friends ate $\frac{6}{12}$ of the sandwich. What fraction of the sandwich is left ?

Subtract. $\frac{7}{12} - \frac{6}{12}$

Model

Subtract the number of $\frac{1}{12}$ pieces that Maya's friends ate.



$\frac{7}{12}$ − $\frac{6}{12}$

Record

7 pieces − 6 pieces = 1 piece

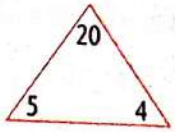
$\frac{7}{12}$ − $\frac{6}{12}$ = $\frac{1}{12}$

So, $\frac{1}{12}$ of the sandwich is left.

Notes for parents

Connect :

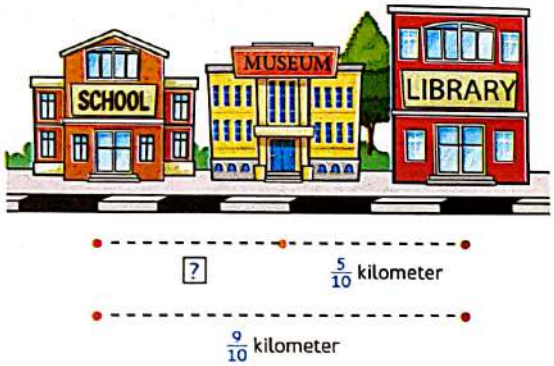
- Remind your child with a multiplication and division fact family, as : $5 \times 4 = 20$, $4 \times 5 = 20$, $20 \div 5 = 4$, $20 \div 4 = 5$



Practice

It is $\frac{9}{10}$ kilometer from the school to the library. It is $\frac{5}{10}$ kilometer from the museum to the library.

How far is it from the school to the museum ?



Natalie made a necklace and a bracelet. She used $\frac{6}{10}$ meter of string for the necklace and $\frac{2}{10}$ meter of string for the bracelet.

How much string did she use in all ?

Fady brought $\frac{3}{5}$ of a candy bar to the playground. He gave $\frac{1}{5}$ of it to his friend.

How much does he have left ?

• Ask your child to read each problem carefully and plan to solve it.

Sally is working on a crossword puzzle.

Yesterday she filled in $\frac{3}{6}$ of the puzzle.

Today she filled in $\frac{1}{6}$ of the puzzle.

What fraction of the puzzle has Sally filled in altogether ?

Eman has $\frac{8}{8}$ meter of fabric.

She uses $\frac{6}{8}$ meter to make a pillow.

How much of the meter of fabric is left ?

The juice container at Salwa's house was $\frac{7}{8}$ full. Salwa drank $\frac{3}{8}$ of the juice.

How much juice was left in the container ?

Notes for parents

- Let your child choose a strategy to solve. He/She can use fraction strips, make a model or draw pictures.

Mohamed ate $\frac{1}{7}$ of his pizza at snack time, and ate $\frac{5}{7}$ of it at lunch.

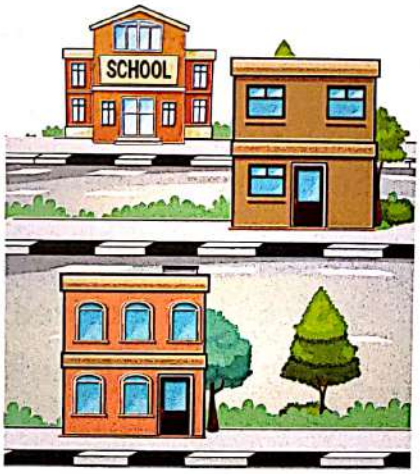
How much of his pizza did he eat in all ?

Yesterday, Wael ran $\frac{3}{6}$ of a kilometer and then stopped to drink some water. After his water break, he ran another $\frac{1}{6}$ of a kilometer.

What fraction of a kilometer did Wael run yesterday ?

Mostafa's house is $\frac{3}{4}$ of a kilometer from school. Ali's house is $\frac{1}{4}$ of a kilometer from school.

Who lives closer to school ?



• Ask your child how he/she determine if the story problem is adding problem or subtracting problem.

Amany and Engy rode along a bike trail.
Amany rode her bike $\frac{4}{5}$ of a kilometer,
Engy rode her bike $\frac{4}{7}$ of a kilometer.

Who rode farther ?

Challenge

- Samir cut a pie into 8 equal slices.
  He shared the pie with 5 of his friends.
  Samir and each of his friends each
  ate 1 piece of pie.
  What fraction of the pie is left ?

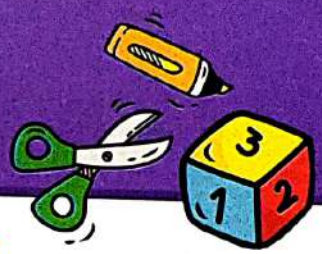
- Sara and Mina baked cakes that were the same size.
  Sara gave $\frac{3}{4}$ of her cake to her class.
  Mina gave $\frac{1}{2}$ of his cake to his class.
  Which class received more cake,
  Sara's class or Mina's class ?

Notes for parents

- Help your child to solve the challenge.

Place a smiley face

Activity
Chapter 3

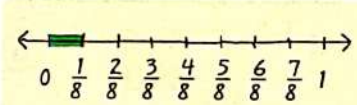


Using number line to add and subtract fractions with common denominator

- You can solve $\frac{1}{8} + \frac{5}{8}$ using a number line.

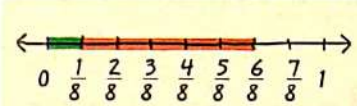
Step 1

Draw a number line and divide it into 8 equal parts.
Model the fraction $\frac{1}{8}$ by shading 1 part of the line green.



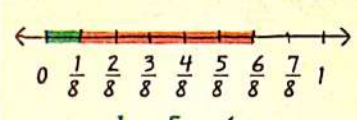
Step 2

Add the fraction $\frac{5}{8}$ by shading 5 more parts of the line red.



Step 3

Add the fractions. Since there are 8 equal parts, the denominator stays the same. Add the numerators and record the sum over the denominator.

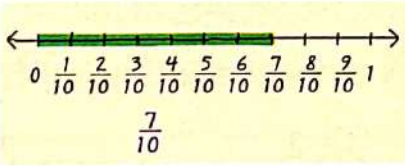


So, $\frac{1}{8} + \frac{5}{8} = \frac{6}{8}$

- You can solve $\frac{7}{10} - \frac{3}{10}$ using a number line.

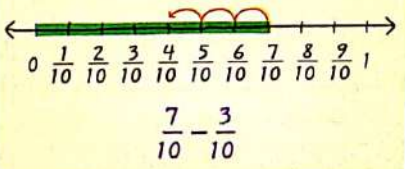
Step 1

Draw a number line divided into 10 equal parts.
Model the fraction $\frac{7}{10}$ by shading 7 parts of the line green.



Step 2

To subtract on a number line, move left. To subtract $\frac{3}{10}$ from $\frac{7}{10}$, start at $\frac{7}{10}$ and move 3 parts to the left.



Step 3

Record your answer. Since there are 10 equal parts, the denominator stays the same.
Subtract the numerators and record the difference over the denominator

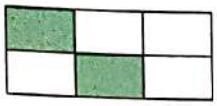
$\frac{7}{10} - \frac{3}{10} = \frac{4}{10}$

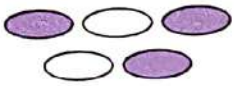
So, $\frac{7}{10} - \frac{3}{10} = \frac{4}{10}$

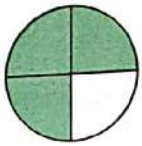
Extra Practice

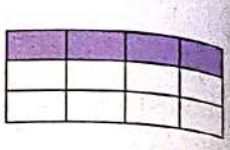
Chapter 3

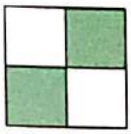
1 Write a fraction for the shaded part.

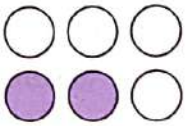
① 

② 

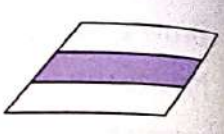
③ 

④ 

⑤ 

⑥ 

⑦

⑧ 

2 Draw one model for the following fractions.

① $\frac{2}{3}$

② $\frac{3}{4}$

③ $\frac{3}{8}$

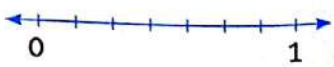
④ $\frac{2}{5}$

3 Write the following fractions in the number line.

① $\frac{2}{3}$

② $\frac{3}{4}$

③ $\frac{5}{7}$



④ $\frac{2}{4}$

⑤ $\frac{5}{8}$

⑥ $\frac{2}{5}$

• In this practice your child will review on all what he/she had learned in chapter 3

4 Compare "write > or <".

① $\frac{2}{3}$ ◯ $\frac{2}{5}$

② $\frac{2}{7}$ ◯ $\frac{3}{7}$

③ $\frac{5}{6}$ ◯ $\frac{4}{6}$

④ $\frac{3}{5}$ ◯ $\frac{4}{5}$

⑤ $\frac{7}{10}$ ◯ $\frac{9}{10}$

⑥ $\frac{7}{9}$ ◯ $\frac{7}{8}$

⑦ $\frac{3}{4}$ ◯ 1

⑧ $\frac{1}{2}$ ◯ $\frac{1}{3}$

⑨ 1 ◯ $\frac{5}{9}$

⑩ $\frac{4}{5}$ ◯ $\frac{4}{7}$

⑪ $\frac{5}{8}$ ◯ $\frac{5}{7}$

⑫ $\frac{7}{12}$ ◯ $\frac{5}{12}$

5 Find the result.

① $\frac{1}{3} + \frac{1}{3} =$ ____

② $\frac{3}{5} - \frac{1}{5} =$ ____

③ $\frac{2}{7} + \frac{3}{7} =$ ____

④ $\frac{2}{8} + \frac{3}{8} =$ ____

⑤ $\frac{2}{10} + \frac{5}{10} =$ ____

⑥ $\frac{5}{10} - \frac{2}{10} =$ ____

⑦ $\frac{5}{6} - \frac{1}{6} =$ ____

⑧ $\frac{4}{9} + \frac{2}{9} =$ ____

⑨ $1 - \frac{4}{10} =$ ____

⑩ $\frac{2}{5} + \frac{3}{5} =$ ____

⑪ $\frac{3}{9} - \frac{1}{9} =$ ____

⑫ $1 - \frac{10}{12} =$ ____

6 Complete the missing fraction in each number line.

① 0, $\frac{1}{7}$, ____, ____, $\frac{4}{7}$, $\frac{5}{7}$, ____, 1

② 0, ____, 1

③ 0, $\frac{1}{8}$, $\frac{2}{8}$, ____, ____, $\frac{5}{8}$, ____, ____, 1

7 The water bottle of Sara was $\frac{5}{7}$ full. Sara drank $\frac{2}{7}$ of water.

How much water was left in the bottle ?

8 Omnia needs $\frac{3}{4}$ cup of milk to make pancakes, she only have $\frac{1}{4}$ cup of milk.

How much more milk does she need ?

9 Hamza ate $\frac{1}{5}$ of his pizza at snack time and $\frac{3}{5}$ of it at lunch.

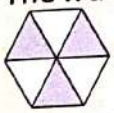
How much of his pizza did he eat in all ?

10 Bassem has a set of measuring cups. Three of the sizes are $\frac{1}{2}$ of a cup, $\frac{1}{4}$ of a cup and $\frac{1}{3}$ of a cup.

Which cup measure holds the greatest amount ?

Assessment
Chapter 3

1 Choose.

① The fraction of the shaded part in  is _____

○ $\frac{1}{3}$ ○ $\frac{3}{5}$ ○ $\frac{3}{6}$

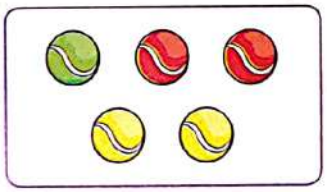
② $\frac{3}{7} - \frac{2}{7} =$ _____

○ $\frac{5}{7}$ ○ $\frac{4}{7}$ ○ $\frac{1}{7}$

③ $\frac{3}{7}$ _____ $\frac{3}{5}$

○ > ○ < ○ =

④ What fraction of red balls ? _____



○ $\frac{2}{3}$ ○ $\frac{2}{5}$ ○ $\frac{1}{5}$

⑤ $\frac{3}{8}$ _____ $\frac{5}{8}$

○ > ○ < ○ =

2 Find the result.

① $\frac{1}{5} + \frac{2}{5} =$ _____

② $\frac{4}{8} + \frac{1}{8} =$ _____

③ $\frac{6}{7} - \frac{3}{7} =$ _____

④ $\frac{5}{9} - \frac{4}{9} =$ _____

3 Sandy ate $\frac{2}{8}$ of a pizza and Marvina ate $\frac{2}{5}$ of it.

Who ate more pizza ?

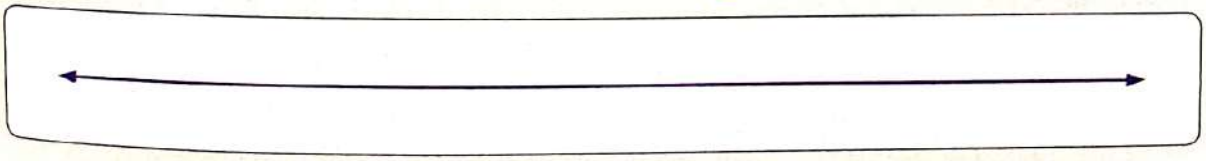
_____

4 A bag had $\frac{5}{6}$ cup of flour in it. Mina took $\frac{1}{6}$ of it.

How much of the flour is left ?

_____

5 Divide the number line into eighths. Circle $\frac{5}{8}$.



Chapter 4

Outcomes

At the end of chapter four, your child will be able to:

Lessons 91 & 92

- Use fraction models to find fractions equivalent to $\frac{1}{2}$.
- Use drawings and number lines to find equivalent fractions.
- Explain which model he/she prefer to use to find equivalent fractions.

Lessons 93 to 95

- Use concrete models to identify equivalent fractions other than $\frac{1}{2}$.
- Match equivalent fractions.
- Explain why two fractions are or are not equivalent.
- Define the term equivalent.
- Find equivalent fractions.
- Describe patterns and relationships between numerators and denominators in equivalent fractions.

Lesson 96

- Use a number line to generate and show equivalent fractions.

Lesson 97

- Analyze errors to build understanding of volume.
- Solve story problems involving fraction concepts.
- Apply understanding of equivalent fractions to solve story problems.
- Describe real-life applications of fractions and equivalent fractions.

Lessons 98 & 99

- Solve division story problems.
- Discuss the relationship between fractions and division.
- Analyze errors to solve a division problem.
- Write a story problem to fit a given context.
- Describe real-life applications of division.

Lesson 100

- Find the missing factor in a fact family.
- Write multiplication and division equations to represent fact families.
- Explain the relationship between multiplication and division.

Key vocabulary

- Fraction
- Denominator
- Estimation
- Division
- Equivalent fraction
- Numerator
- Pattern
- Quotient
- Half
- Number line
- Multiplication
- Product
- Factor

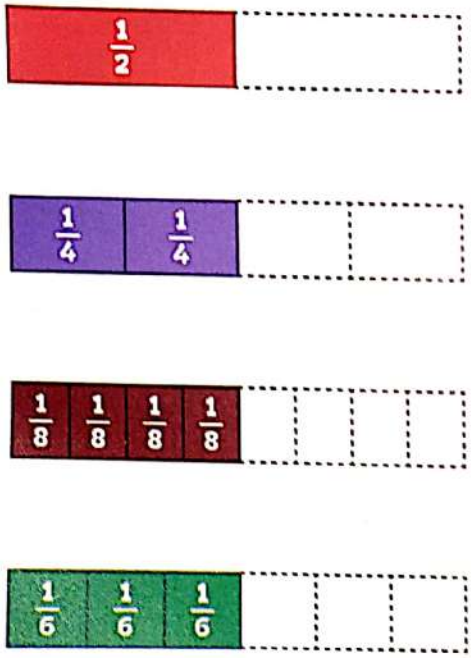
Lessons 91&92 Equivalent fractions to $\frac{1}{2}$

Learn How to find equivalent fractions to $\frac{1}{2}$?

Vocabulary
Equivalent fractions
Fractions that name the same amount are called equivalent fractions.

One way Use fraction strips.

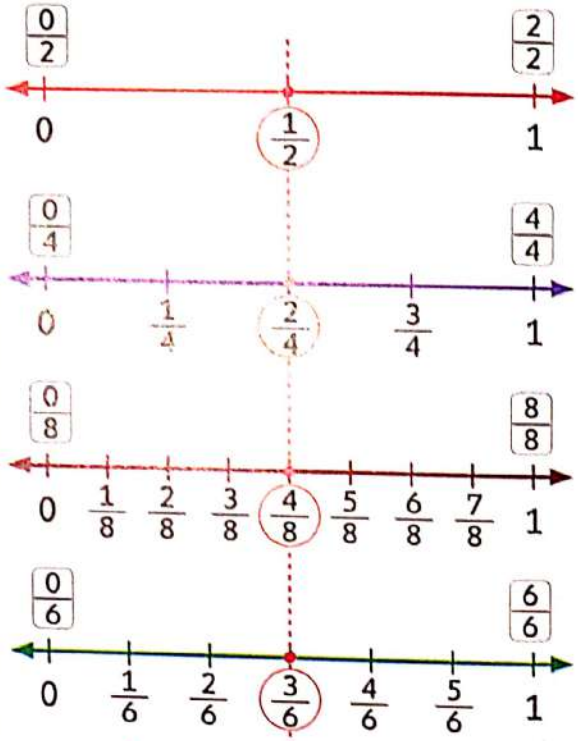
Line up the strips of the same type to show the same size as $\frac{1}{2}$.



$\frac{1}{2} = \frac{2}{4} = \frac{4}{8} = \frac{3}{6}$

Second way Use number line.

Draw number lines such that each 0 and 1 are line up and divide each distance from 0 to 1 into equal parts. Label fractions.

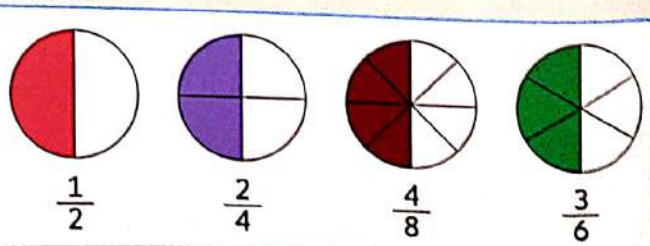


$\frac{1}{2} = \frac{2}{4} = \frac{4}{8} = \frac{3}{6}$

Third way Use fraction models.

The colored parts in all circles are equal.

$\frac{1}{2} = \frac{2}{4} = \frac{4}{8} = \frac{3}{6}$



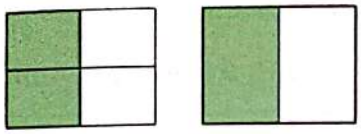
Notes for parents

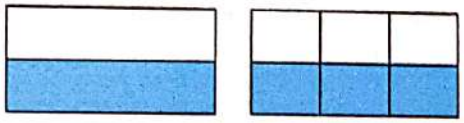
Connect :

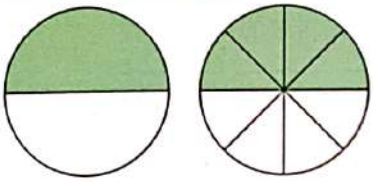
- Ask your child if you cut a pizza into six equal parts and ate $\frac{1}{2}$ of it, how many pieces did you eat ? What fraction of the pizza is left ?

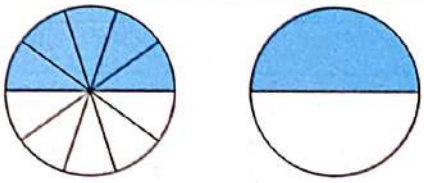
Check

Write the fraction of each model shows.



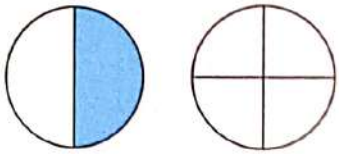


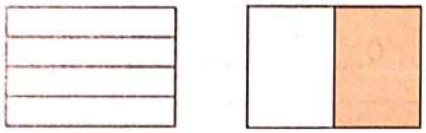


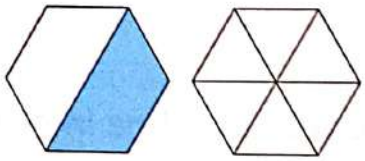


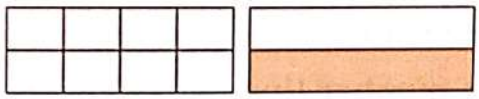
Practice

Color the second figure to show $\frac{1}{2}$ and then record.

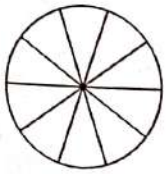


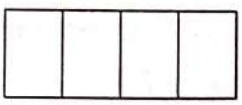


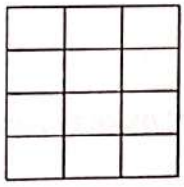


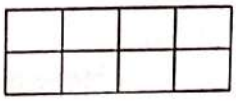


Color each figure to show $\frac{1}{2}$. Record the proper fraction below figure.



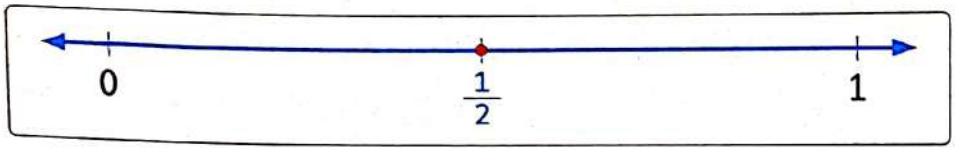


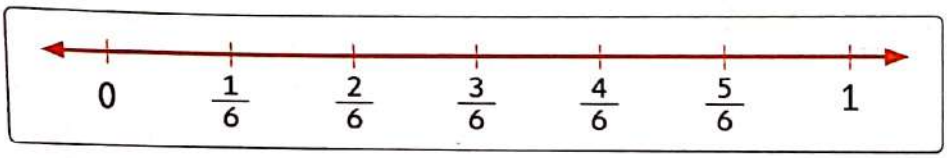




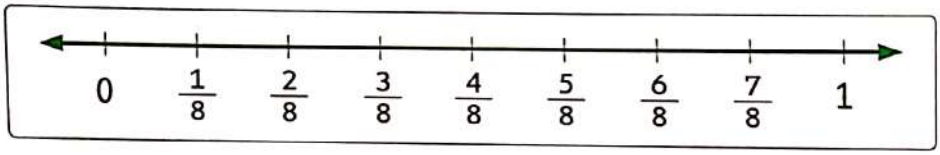
• Let your child draw 2 circles and divide one circle into halves and other into eighths. Color half of each circle.

Find the equivalent fraction of $\frac{1}{2}$. Show the equivalent fraction on the number line.

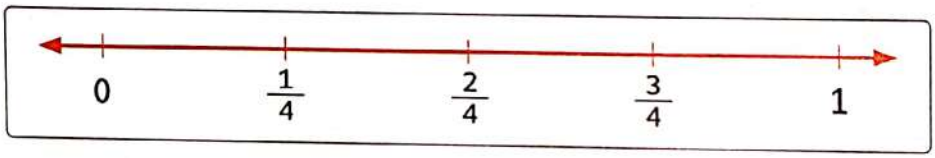




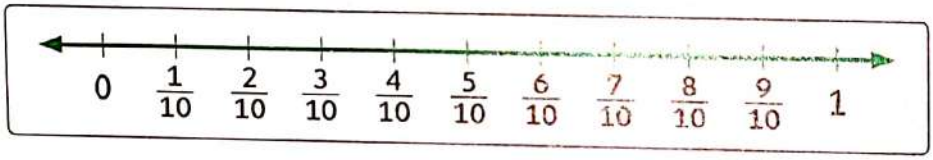
$\frac{1}{2} = \frac{\quad}{6}$



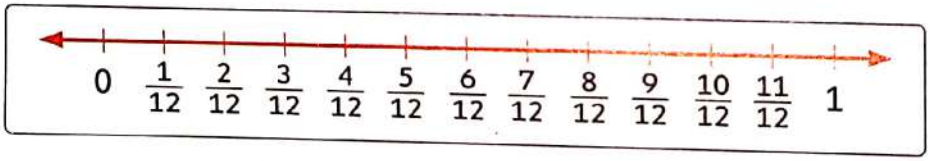
$\frac{1}{2} = \frac{\quad}{\quad}$



$\frac{1}{2} = \frac{\quad}{\quad}$

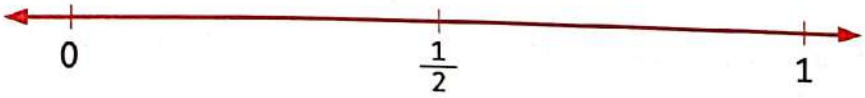


$\frac{1}{2} = \frac{\quad}{\quad}$



$\frac{1}{2} = \frac{\quad}{\quad}$

The number line below shows halves. Divide the same line into four equal parts (fourths).



How many fourths are equivalent to $\frac{1}{2}$? _____

Notes for parents

- Help your child to use number line to check that $\frac{1}{2} = \frac{3}{6}$.

Divide the number line below into six equal parts (sixths).

How many sixths are equivalent to $\frac{1}{2}$? _____

Divide the number line below into eight equal parts (eighths).

How many eighths are equivalent to $\frac{1}{2}$? _____

Complete to form equivalent fraction to $\frac{1}{2}$ by using fraction strips.

$\frac{1}{2} = \frac{\quad}{6}$ | $\frac{1}{2} = \frac{2}{\quad}$ | $\frac{1}{2} = \frac{6}{\quad}$ | $\frac{1}{2} = \frac{\quad}{10}$

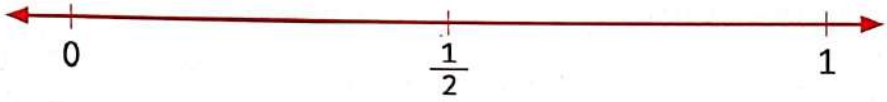
Write 3 different forms fractions equivalent to $\frac{1}{2}$ by using fraction strips.

$\frac{1}{2} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$

Challenge

- The number line below shows halves.

  Divide the same line into sixteen equal parts (Sixteenths).



How many Sixteenths are equivalent to $\frac{1}{2}$? _____

- Marvena said that she knew $\frac{4}{8}$ was equal to $\frac{1}{2}$ because 4 + 4 = 8 and 4 is a half of 8.

  If Marvena is right. would $\frac{6}{12}$ be equivalent to $\frac{1}{2}$? _____

  What other fractions might be equivalent to $\frac{1}{2}$? _____

• Ask your child how he/she found equivalent fraction to $\frac{1}{2}$.

Place a smiley face

Lessons

93 to 95

Equivalent fractions

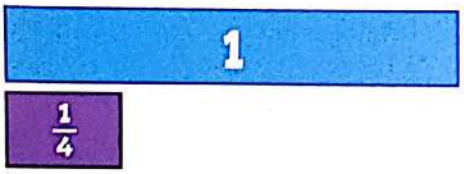
Learn — Equivalent fractions using fractions strips and models

Example 1 Materials : Fraction strips

What is an equivalent fraction for $\frac{1}{4}$?

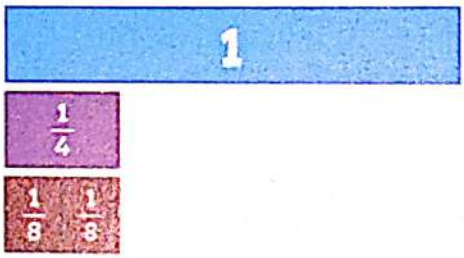
Step 1

Start with the strip for 1 whole.
Line up a $\frac{1}{4}$ fraction strip.



Step 2

Use $\frac{1}{8}$ fraction strips to match the length of the strip for $\frac{1}{4}$.



Step 3

Count the number of $\frac{1}{8}$ strips that equal $\frac{1}{4}$.
Write the equivalent fraction.

Count : $\frac{1}{8}$, $\frac{2}{8}$

Write : $\frac{1}{4} = \frac{2}{8}$

ERROR ALERT

Be sure that the fraction bars are lined up at the left.

Example 2 Materials : Fraction strips

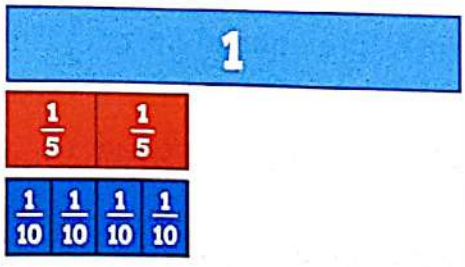
What is an equivalent fraction for $\frac{2}{5}$?

Step 1

Start with the strip for 1 whole.
Line up two $\frac{1}{5}$ strips for $\frac{2}{5}$.

Step 2

Use $\frac{1}{10}$ fraction strips to match the length of the strip for $\frac{2}{5}$.



Step 3

Count the number of $\frac{1}{10}$ strips that equal $\frac{2}{5}$.
Write the equivalent fraction.

Count : $\frac{1}{10}$, $\frac{2}{10}$, $\frac{3}{10}$, $\frac{4}{10}$

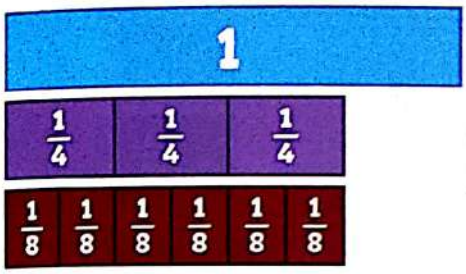
Write : $\frac{2}{5} = \frac{4}{10}$

Notes for parents

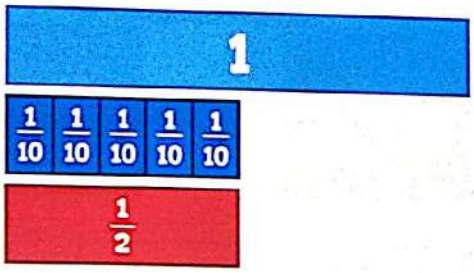
Connect :

- Draw models for some fractions equivalent to $\frac{1}{2}$ and some non equivalent to $\frac{1}{2}$. Ask your child to cross out the fraction model that is not equivalent to $\frac{1}{2}$.
- Revise with your child the concept the quadrilateral and estimation.

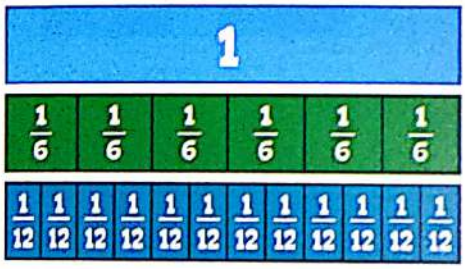
More Examples



$\frac{3}{4} = \frac{6}{8}$

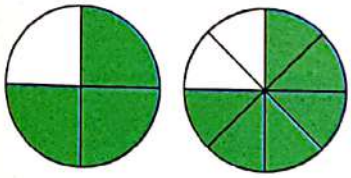


$\frac{5}{10} = \frac{1}{2}$

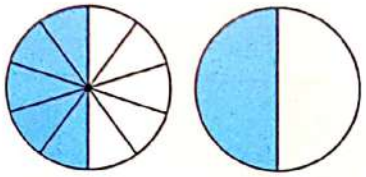


$\frac{6}{6} = \frac{12}{12}$, or 1

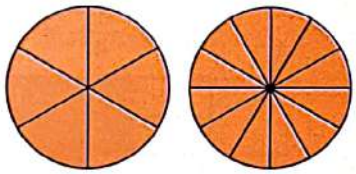
You can also use fractions models.



$\frac{3}{4} = \frac{6}{8}$



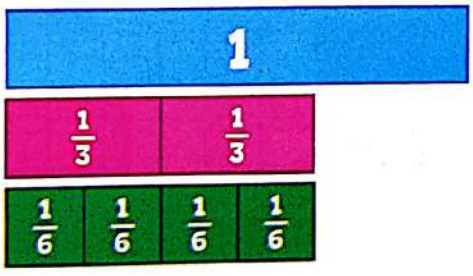
$\frac{5}{10} = \frac{1}{2}$



$\frac{6}{6} = \frac{12}{12}$

Check

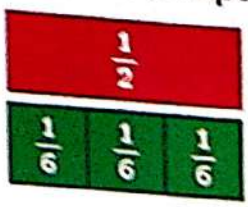
What fraction is equivalent to $\frac{2}{3}$?



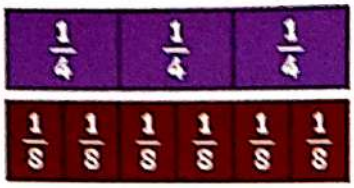
• Ask your child to draw fraction models to find equivalent fraction to $\frac{2}{3}$.

Practice

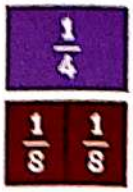
Copy and complete. You may use fraction strips to help.



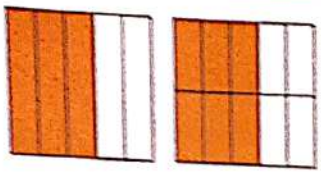
$\frac{1}{2} = \frac{\quad}{6}$



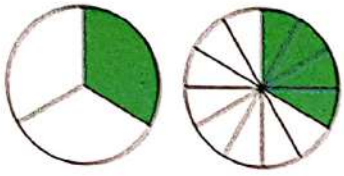
$\frac{3}{4} = \frac{\quad}{8}$



$\frac{1}{4} = \frac{\quad}{8}$



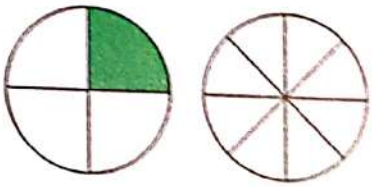
$\frac{3}{5} = \frac{\quad}{10}$



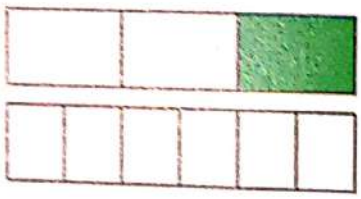
$\frac{1}{3} = \frac{\quad}{12}$

$\frac{4}{5} = \frac{\quad}{10}$

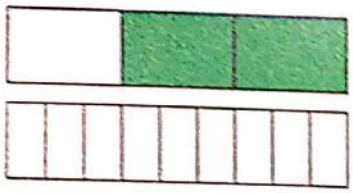
Color and write the equivalent fractions.



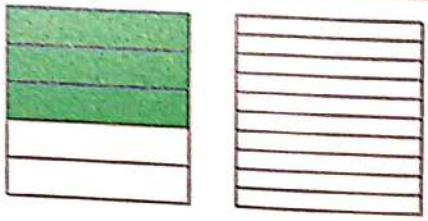
$\frac{1}{4} = \frac{\quad}{8}$



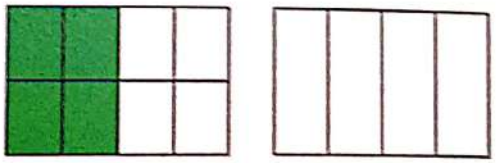
$\frac{1}{3} = \frac{\quad}{\quad}$



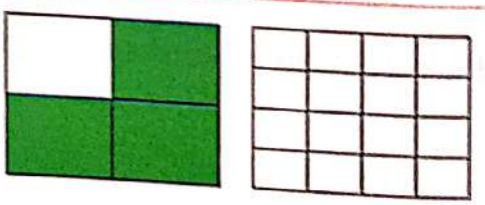
$\frac{2}{3} = \frac{\quad}{\quad}$



$\frac{3}{5} = \frac{\quad}{\quad}$



$\frac{4}{8} = \frac{\quad}{\quad}$

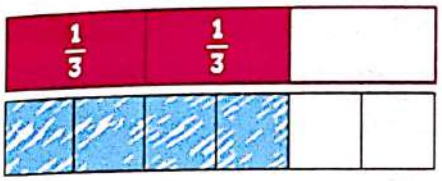


$\frac{3}{4} = \frac{\quad}{\quad}$

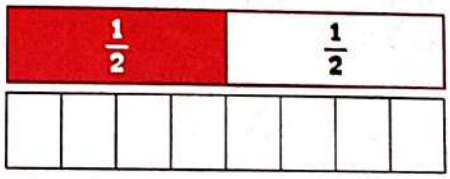
Notes for parents

- Ask your child to use his/her fraction strips to write any 2 equivalent fractions.

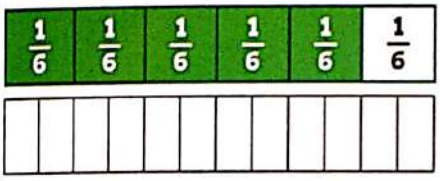
Color and write the equivalent fraction. The first one is done for you.



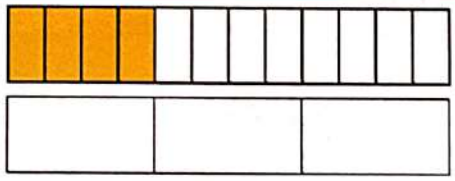
$\frac{2}{3} = \frac{4}{6}$



$\frac{1}{2} = \frac{\quad}{\quad}$

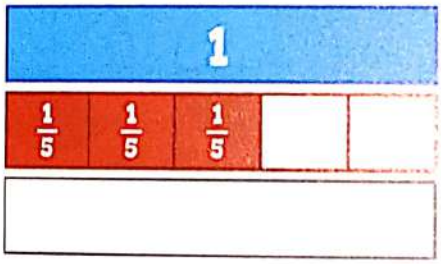


$\frac{\quad}{\quad} = \frac{\quad}{\quad}$

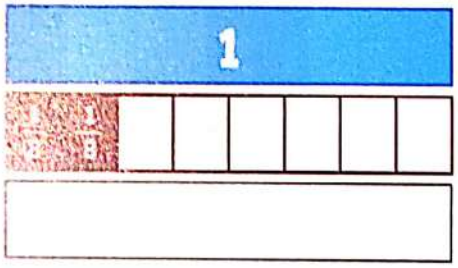


$\frac{\quad}{\quad} = \frac{\quad}{\quad}$

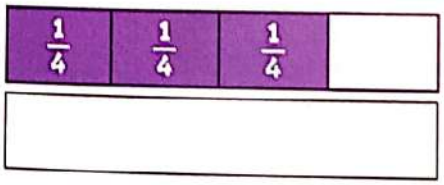
Find an equivalent fraction. Use fraction strips.



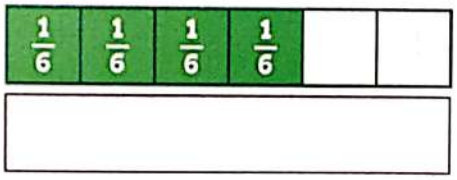
$\frac{3}{5} = \frac{\quad}{10}$



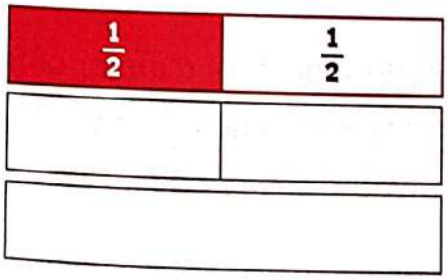
$\frac{2}{8} = \frac{\quad}{4}$



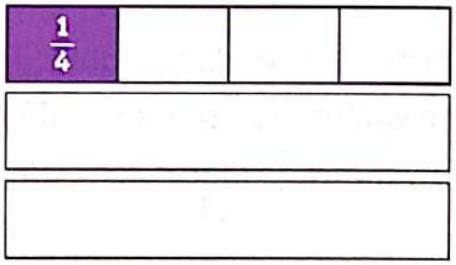
$\frac{3}{4} = \frac{\quad}{8}$



$\frac{4}{6} = \frac{\quad}{3}$



$\frac{1}{2} = \frac{\quad}{6} = \frac{\quad}{10}$



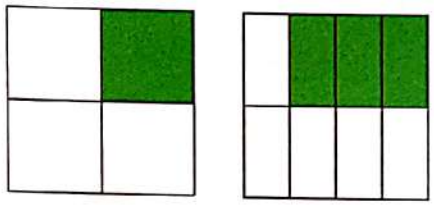
$\frac{1}{4} = \frac{\quad}{8} = \frac{\quad}{12}$

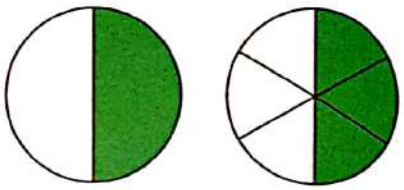
• Ask your child to choose any equivalent fractions in this page and draw a model to show them.

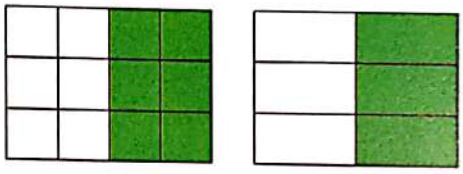
Write two equivalent fractions to each of the following. Using fraction strips.

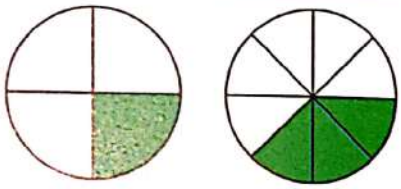
$\frac{2}{3}$ = ___ = ___ | $\frac{2}{4}$ = ___ = ___

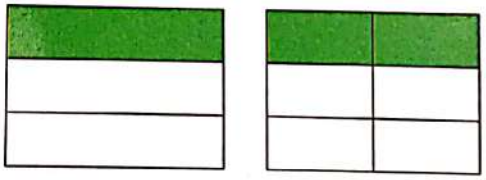
Write if the fractions are equivalent or not equivalent. You may use fraction strips to help.

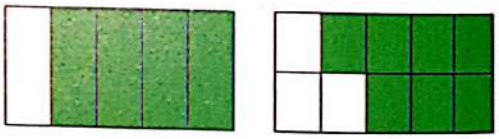












Challenge

- Nermin was making a quilt. The pattern called for $\frac{2}{3}$ of a meter of fabric. She wanted to use many different pieces that were each $\frac{1}{6}$ meter long. How many $\frac{1}{6}$ meter-long pieces of fabric would she need ?

___

___

Notes for parents

- Help your child to solve the challenge in this page.

Learn Equivalent fractions using multiply or divide.

You can multiply both the numerator and denominator of a fraction by any number except zero to find equivalent fractions.

If the numerator and denominator have a common factor, you can also divide both by that factor to find an equivalent fraction.

Find fractions that are equivalent to $\frac{4}{6}$.

One way

Multiply the numerator and the denominator by the same number.

Try 2 : $\frac{4}{6} = \frac{4 \times 2}{6 \times 2} = \frac{8}{12}$

So, $\frac{8}{12}$ is equivalent to $\frac{4}{6}$.

Another way

Divide the numerator and the denominator by the same number.

Try 2 : $\frac{4}{6} = \frac{4 \div 2}{6 \div 2} = \frac{2}{3}$

So, $\frac{2}{3}$ is equivalent to $\frac{4}{6}$.

Check

Complete to find equivalent fractions.

$\frac{1}{3} \overset{\times 4}{=} \frac{\quad}{\quad}$ ($\times 4$)

$\frac{1}{4} \overset{\times 3}{=} \frac{\quad}{\quad}$ ($\times 3$)

$\frac{2}{5} \overset{\times 5}{=} \frac{\quad}{\quad}$ ($\times 5$)

$\frac{3}{6} \overset{\div 3}{=} \frac{\quad}{\quad}$ ($\div 3$)

$\frac{4}{8} \overset{\div 4}{=} \frac{\quad}{\quad}$ ($\div 4$)

$\frac{4}{16} \overset{\div 2}{=} \frac{\quad}{\quad}$ ($\div 2$)

• Help your child to check that $\frac{4}{6} = \frac{8}{12}$ and $\frac{4}{6} = \frac{2}{3}$ using his/her fraction strips.

Write two equivalent fractions to each fraction.

$\frac{2}{3} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$

$\frac{4}{12} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$

$\frac{4}{6} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$

$\frac{4}{10} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$

$\frac{3}{9} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$

$\frac{4}{20} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$

Choose the correct answer.

$\frac{2}{5} =$ _____

- ○ $\frac{2}{10}$
- ○ $\frac{6}{15}$
- ○ $\frac{4}{5}$
- ○ $\frac{6}{20}$

$\frac{6}{16} =$ _____

- ○ $\frac{2}{4}$
- ○ $\frac{12}{30}$
- ○ $\frac{6}{6}$
- ○ $\frac{3}{8}$

$\frac{4}{12} =$ _____

- ○ $\frac{1}{4}$
- ○ $\frac{12}{24}$
- ○ $\frac{8}{24}$
- ○ $\frac{8}{12}$

$\frac{2}{8} =$ _____

- ○ $\frac{1}{4}$
- ○ $\frac{4}{18}$
- ○ $\frac{2}{18}$
- ○ $\frac{4}{4}$

$\frac{3}{4} =$ _____

- ○ $\frac{4}{5}$
- ○ $\frac{3}{40}$
- ○ $\frac{2}{3}$
- ○ $\frac{15}{20}$

$\frac{2}{10} =$ _____

- ○ $\frac{1}{2}$
- ○ $\frac{10}{50}$
- ○ $\frac{3}{30}$
- ○ $\frac{10}{20}$

Notes for parents

- Give your child a fraction as $\frac{8}{12}$, ask him/her to find the equivalent fractions, once by multiplication and another by dividing.

Learn How to find missing numerator or denominator in equivalent fraction

Example $\frac{2}{5} = \frac{?}{15}$

To find the missing numerator, decide if the denominator is multiplied or divided by a number, then do the same with numerator.

5 is multiplied by 3 to be 15

$\frac{2}{5} \xrightarrow{\times 3} \frac{?}{15}$

Multiply 2 by 3, you will get 6 in the numerator

$\frac{2}{5} \xrightarrow{\times 3} \frac{6}{15}$

Another Example $\frac{8}{12} = \frac{4}{?}$

8 is divided by 2 to be 4

$\frac{8}{12} \xrightarrow{\div 2} \frac{4}{?}$

Divide 12 by 2 also, you will get 6 in the denominator

$\frac{8}{12} \xrightarrow{\div 2} \frac{4}{6}$

Practice

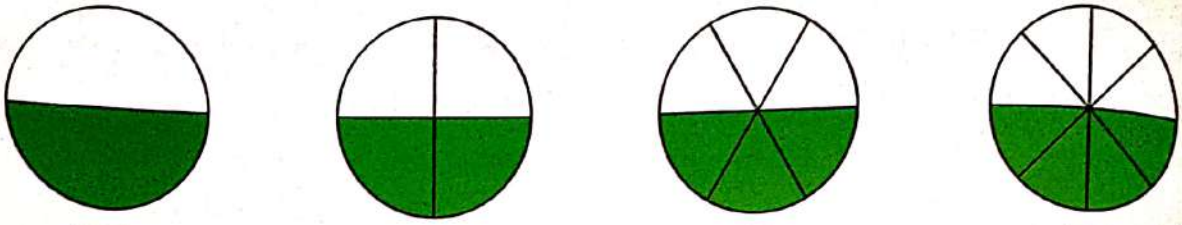
Complete.

$\frac{1}{5} = \frac{\quad}{10}$	$\frac{2}{3} = \frac{\quad}{9}$	$\frac{2}{4} = \frac{1}{\quad}$	$\frac{\quad}{4} = \frac{6}{8}$
$\frac{1}{4} = \frac{\quad}{20}$	$\frac{3}{6} = \frac{\quad}{2}$	$\frac{\quad}{6} = \frac{10}{12}$	$\frac{2}{7} = \frac{\quad}{14}$
$\frac{8}{10} = \frac{4}{\quad}$	$\frac{4}{6} = \frac{\quad}{18}$	$\frac{4}{6} = \frac{\quad}{3}$	$3 = \frac{12}{\quad}$

• Ask your child how he/she find the missing numerator in ($\frac{1}{5} = \frac{?}{10}$) and how he/she find the missing denominator in ($\frac{8}{10} = \frac{4}{?}$).

Learn Exploring the pattern in equivalent fraction

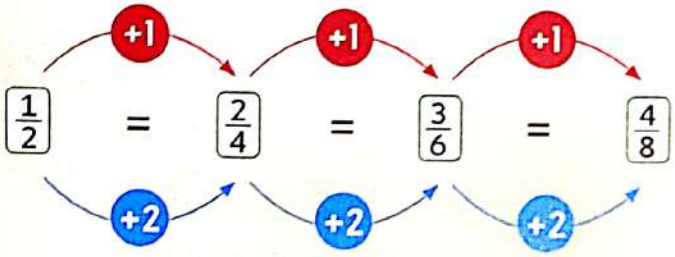
Discover the equivalent fraction to $\frac{1}{2}$.



$\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8}$

Your recognize that :

- The denominator is twice (double) of the numerator.
- The numerator is half of the denominator.



The numerator increases by one in each subsequent fraction and denominator increases by two.

Practice

Complete the fraction and describe each of the following patterns. The first one is done for you.

$\frac{1}{3} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12}$

Description of the pattern : The numerator increases by 1 and the denominator increases by 3.

$\frac{1}{4} = \frac{\quad}{8} = \frac{\quad}{12} = \frac{4}{\quad}$

Description of the pattern : _____

Notes for parents

- Ask your child to define the number pattern, and ask him/her give you an example of a pattern.

$\frac{2}{3} = \frac{\quad}{6} = \frac{6}{\quad} = \frac{\quad}{12}$

Description of the pattern : _____

$\frac{3}{5} = \frac{\quad}{10} = \frac{9}{\quad} = \frac{12}{\quad}$

Description of the pattern : _____

$\frac{2}{7} = \frac{4}{\quad} = \frac{\quad}{21} = \frac{\quad}{28}$

Description of the pattern : _____

$\frac{1}{8} = \frac{2}{\quad} = \frac{\quad}{24} = \frac{\quad}{32}$

Description of the pattern : _____

$\frac{3}{4} = \frac{\quad}{8} = \frac{\quad}{12} = \frac{12}{\quad}$

Description of the pattern : _____

$\frac{5}{6} = \frac{10}{\quad} = \frac{\quad}{18} = \frac{\quad}{24}$

Description of the pattern : _____

$\frac{4}{5} = \frac{8}{\quad} = \frac{\quad}{15} = \frac{16}{\quad}$

Description of the pattern : _____

• Ask your child to write his/her own fraction pattern.

Place a smiley face

Lesson

96 Equivalent fractions on the number line

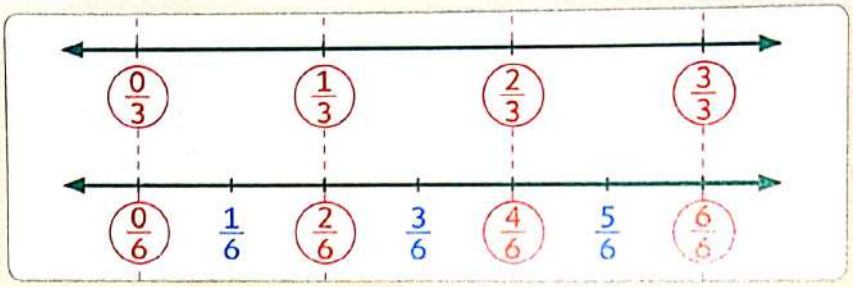
Learn

There are many ways to write 1 as a fraction in every case, the numerator and denominator are the same.

You can use the number line to find the equivalent fraction.

For example :

Draw a number line divided into thirds, and one below it divided into sixths.



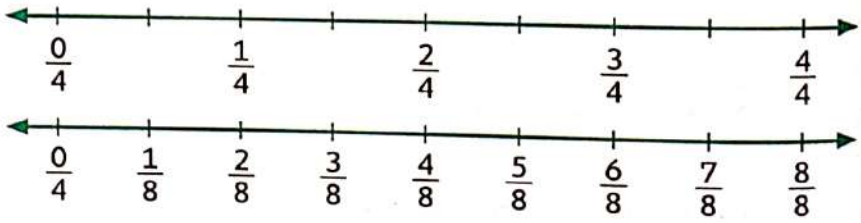
Fractions that line up above each other are equivalent, we observe that :

$\frac{0}{3} = \frac{0}{6} = 0$, $\frac{1}{3} = \frac{2}{6}$, $\frac{2}{3} = \frac{4}{6}$, $\frac{3}{3} = \frac{6}{6} = 1$

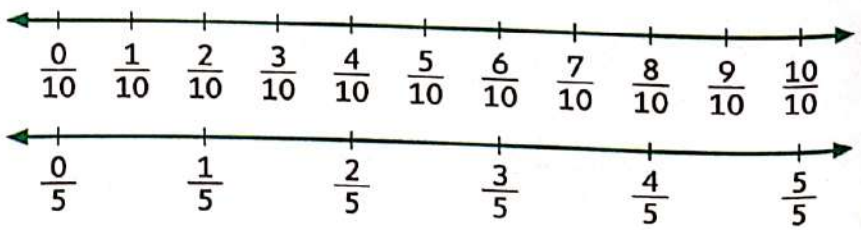
Check

Write the equivalent fraction to each of the following using the number line.

$\frac{3}{4} = \frac{\quad}{\quad}$



$\frac{4}{10} = \frac{\quad}{\quad}$



Notes for parents

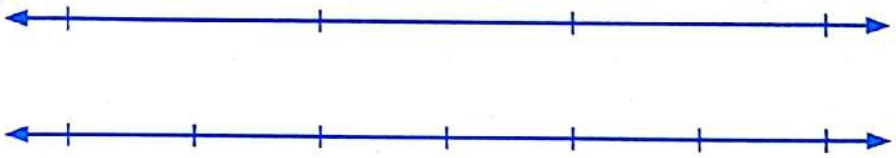
Connect :

- Revise with your child the concept of fair share which is the equal parts or the same amount.

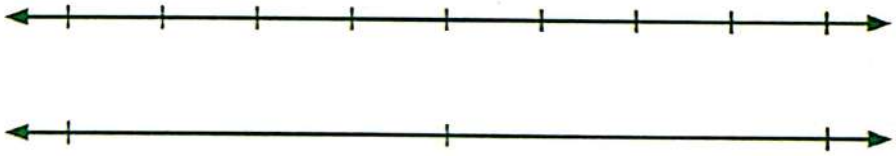
Practice

Write the equivalent fraction to each of the following using the number lines.

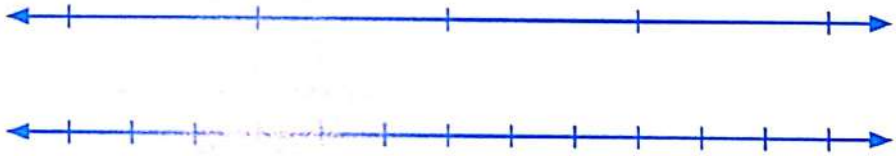
$\frac{1}{3} = \frac{\quad}{\quad}$



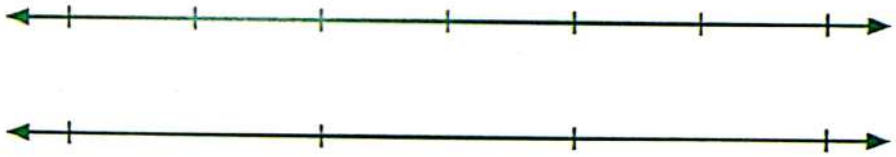
$\frac{4}{8} = \frac{\quad}{\quad}$



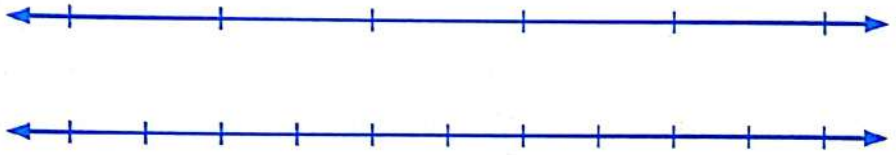
$\frac{3}{4} = \frac{\quad}{\quad}$



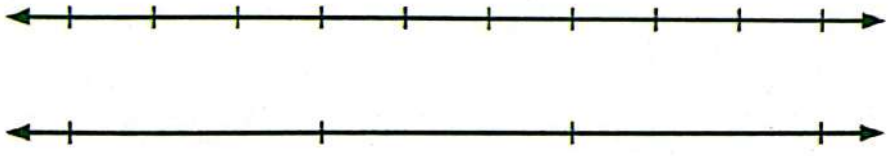
$\frac{4}{6} = \frac{\quad}{\quad}$



$\frac{3}{5} = \frac{\quad}{\quad}$



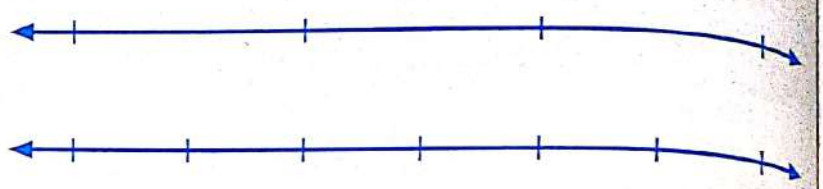
$\frac{6}{9} = \frac{\quad}{\quad}$



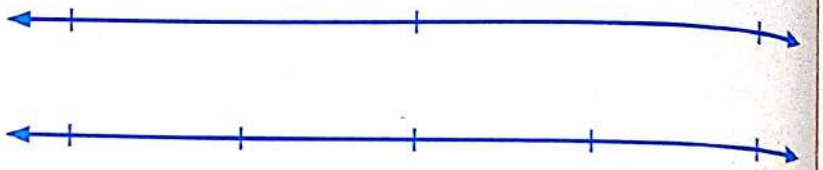
• Let your child check his/her answers using fraction strips.

Complete by using the number lines.

$\frac{1}{3} = \square$, $\frac{2}{3} = \square$

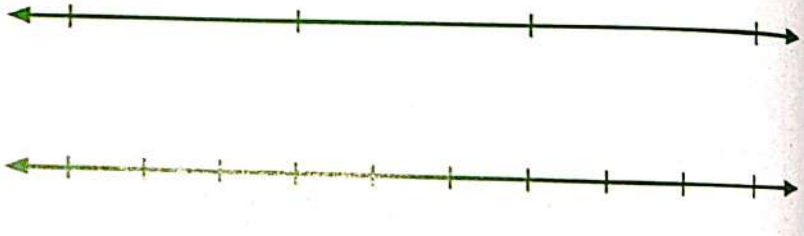


$\square = \square$



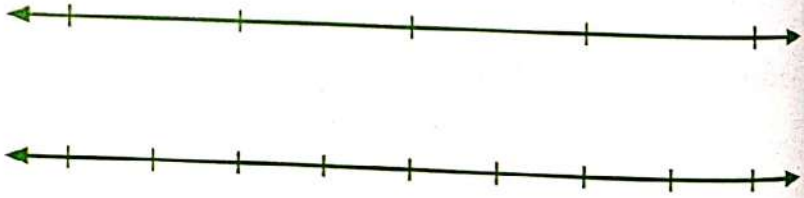
$\square = \square$

, $\square = \square$



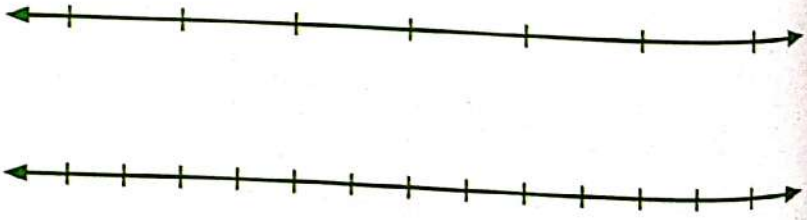
$\square = \square$

, $\square = \square$



$\square = \square$

, $\square = \square$



Notes for parents

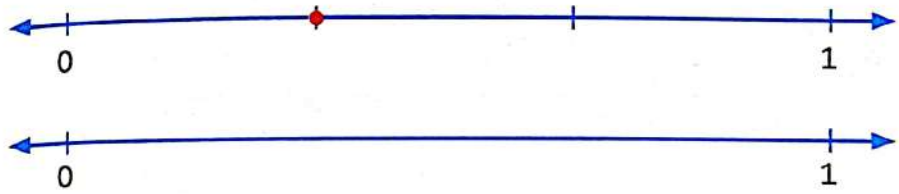
Chapter 4 Lesson 96

178 • Ask your child why $\frac{1}{4} = \frac{2}{8}$?

Write the fraction for the dot on the number line.

Use the second number line to show a fraction equivalent to the first fraction.

(You may use halves, thirds, fourths, fifths, sixths or eighths)



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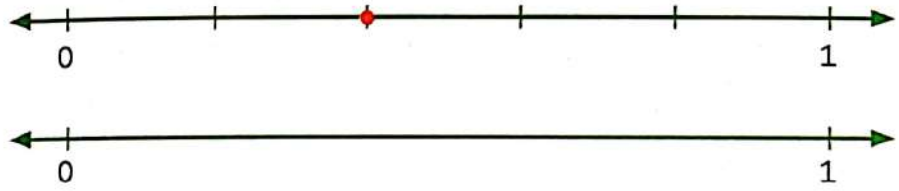

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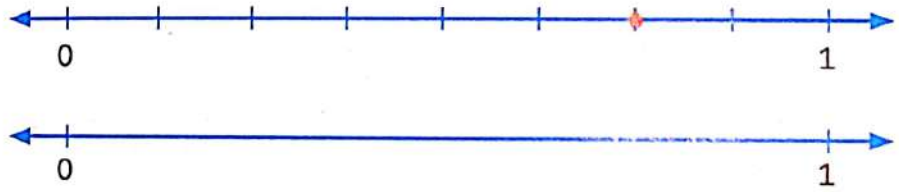

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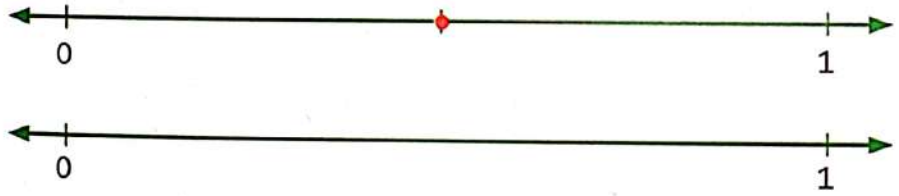

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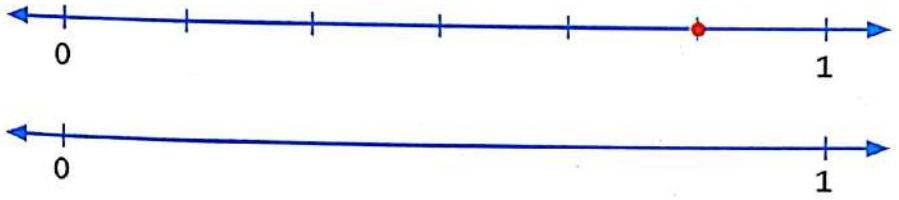

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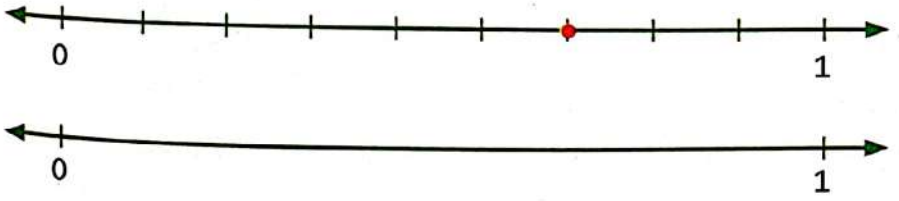


$\square = \square$

• Encourage your child to use number line to find many equivalent fractions.

Place a smiley face

Lesson

97

Story problems on equivalent fractions

Learn

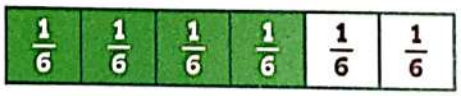
Hazem and Ahmed bought a pizza for each of the same size, if Hazem's pizza is divided into sixths, Ahmed's pizza is divided into twelfths, and Hazem ate 4 pieces from his pizza, how many parts of pizzas should Ahmed eat to be equivalent what Hazem ate ?

Hazem's pizza

Ahmed's pizza

One way Use fraction strips.

Hazem

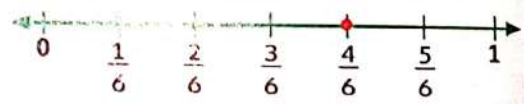


Ahmed

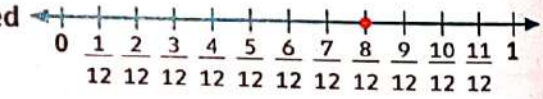
$\frac{4}{6} = \frac{8}{12}$

Another way Use number line.

Hazem



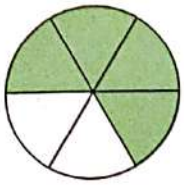
Ahmed



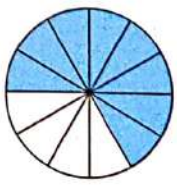
$\frac{4}{6} = \frac{8}{12}$

Third way Use models.

Hazem



Ahmed



$\frac{4}{6} = \frac{8}{12}$

Then Ahmed should eat 8 parts.

Notes for parents

Connect :

- Revise with your child that the half of large amount and the half of small amount are not equal, give examples.
- Revise with your child the units of measuring capacity.

Practice

Solve the following story problems by using fraction strips, number line or models.

- Logy and Sara each had 1 litre of juice. Logy drank $\frac{1}{4}$ of her litre, Sara drank the same amount of her litre. If Sara measured her amount in eighths. **How many eights of juice did Sara drink ?** _____

Work area

- Sandy and Mostafa each made a pizza for dinner both pizzas were the same size. Sandy's pizza was cut into fifths and Mostafa's pizza was cut into tenths. Sandy ate $\frac{2}{5}$ of her pizza. If Mostafa wants to eat the same amount of pizza as Sandy.

How many slices of pizza will he eat ? _____

Work area

• Help your child to read each story carefully, then plan to solve.

- Bassem and Mina were eating same-sized sandwich. Bassem's sandwich was cut into thirds and Mina's sandwich was cut into sixths. Bassem ate 3 parts of his sandwich. **What fraction of his sandwich does Mina have to eat to be the same amount as Bassem ?** _____

Work area

- Nermin and Rawan were eating same-sized oranges. Nermin cut her orange into 8 equal pieces and ate 4 of the pieces. Rawan cut her orange into 4 equal pieces and ate the same amount as Nermin ate. **What fraction of the orange did Rawan eat ?** _____

Work area

Notes for parents

- Help your child to solve each problem. Ask him/her how he/she solved each one.

o Mom gave Sameh and Naglaa candy bars that were the same size.

Sameh ate $\frac{3}{4}$ of his candy bar.

Naglaa ate $\frac{9}{12}$ of her candy bar.

Who ate more of their candy bar ?

_____

Work area

Challenge

o Write your own story problem involving equivalent fraction, then solve it.

Work area

• Give your child two equivalent fractions (as : $\frac{1}{3} = \frac{2}{6}$) , then ask him/her to write a story problem using these two fractions.

Place a smiley face

Lessons

98 & 99

Model division

Learn

When you multiply, you put equal groups together.
When you divide, you separate into equal groups.

PROBLEM 1 :

Weal has 12 shells. He wants to put the same number of shells in each of 3 boxes.
How many shells will be in each box ?

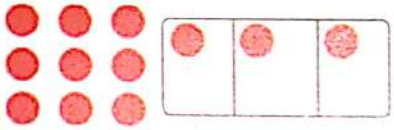
To find the number of shells in each box, find $12 \div 3$ as follows :

Step 1

Use 12 counters.

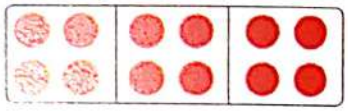
Step 2

Show 3 boxes. Place 1 counter in each box.



Step 3

Continue until all 12 counters are used.



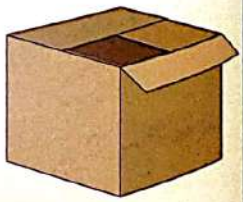
$12 \div 3 = 4$

Number of shells in each group

So, there will be 4 shells in each box.

PROBLEM 2 :

Wael has decided that he wants to put his 12 shells in groups of 3. How many boxes will he need for his shells ?
To find the number of boxes he needs,



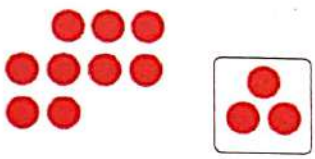
find $12 \div 3$ as follows :

Step 1

Use 12 counters.

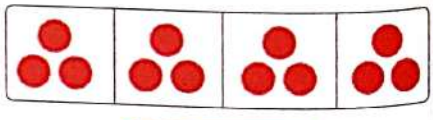
Step 2

Make 1 box of 3 counters.



Step 3

Continue making boxes of 3 until all counters are used.



$12 \div 3 = 4$

Number of equal groups

So, Wael will need 4 boxes for his shells.

Notes for parents

Connect :

- Remind your child how he/she find the area and the perimeter of a rectangle.
- Train your child to solve story problems on division. Let him/her analyse errors.

Check

John has 8 counters. He wants to put 2 in each group.

Draw a picture to show the groups.

Work area

Complete the table. Use counters to help.

Counters	Number of equal groups	Number in each group
10	2	_____
24	_____	4

Explain two ways you could divide 18 counters into equal groups. Draw a picture to show each way.

Work area

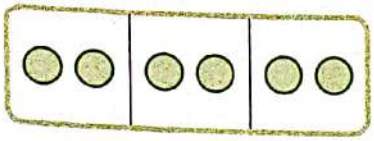
Practice

Complete the table. Use counters to help.

Counters	Number of equal groups	Number in each group
14	7	_____
21	_____	3
20	5	_____
32	_____	8

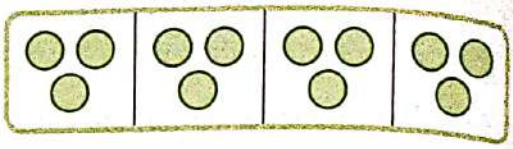
• Ask your child to use counters to solve each problem in this page.

Write a division equation for each bar model. Write the quotient. The first one is done for you.



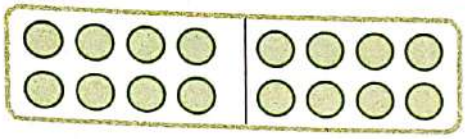
Division equation : 6 ÷ 3

The quotient = 2



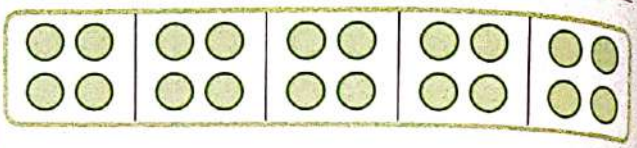
Division equation : ——— ÷ ———

The quotient = ———



Division equation : ——— ÷ ———

The quotient = ———

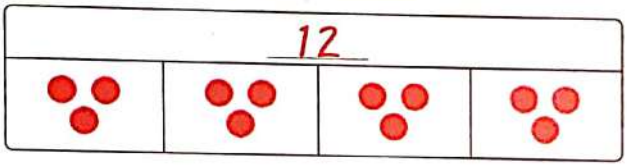


Division equation : ——— ÷ ———

The quotient = ———

Draw dots to find the quotient. The first one is done for you.

12 ÷ 4

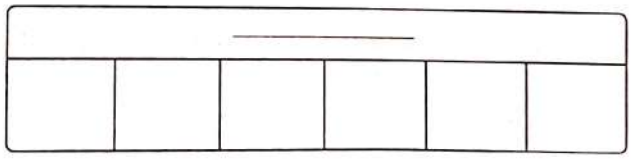


The quotient = 3

Math Up

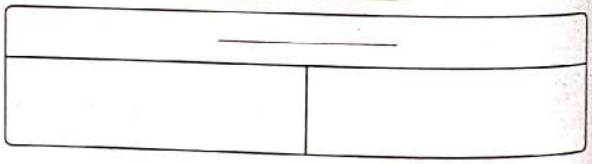
Draw one dot in each box. Continue drawing dots until you draw 12 dots. Count the dots in each box to be the quotient.

12 ÷ 6



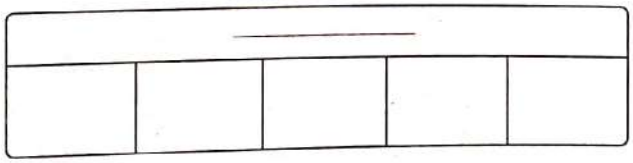
The quotient = ———

8 ÷ 2



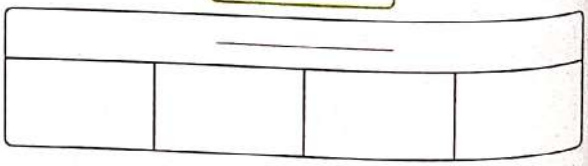
The quotient = ———

15 ÷ 5



The quotient = ———

16 ÷ 4



The quotient = ———

Notes for parents

- Revise with your child the meaning of the quotient.

Complete the bar model to find the quotient.
The first one is done for you.

12 ÷ 4

4	4	4

12 ÷ 4 = 3

Math tip

Continue writing 4s until you have the sum of 12.

4 + 4 + 4 = 12.

15 ÷ 3

3	

15 ÷ 3 = ———

20 ÷ 5

5	

20 ÷ 5 = ———

28 ÷ 7

7	

28 ÷ 7 = ———

18 ÷ 6

6	

18 ÷ 6 = ———

Petra has 28 stamps. She put stamps on 4 pages equally.
How many stamps are on each page ?

Work area

28

——— ÷ ——— = ——— ——— stamps

There are 35 crayons in the classroom that need to be placed in 5 cups.
Each cup must have the same number of crayons.
How many crayons will be in each cup ?

Work area

35

——— ÷ ——— = ——— ——— crayons

• Ask your child why he/she decide to solve using this way.

The class has 24 students. You can fit 3 students on a swing set.
How many swing sets are needed for the whole class to swing ?

Work area

24

____ ÷ ____ = ____ ____ swing sets

Esslam placed 42 counters in rows of 6.
How many rows did he make ?

Work area

42

____ ÷ ____ = ____ ____ rows

Amgad studied 16 hours. If he studied 2 hours each day.
How many days did he study ?

Work area

16

____ ÷ ____ = ____ ____ days

Sara has 42 marbles. She puts them in 6 bags equally.
How many marbles are in each bag ?

Work area

____ ÷ ____ = ____ ____ marbles

Notes for parents

- Let your child to use multiplication to check his/her answers.

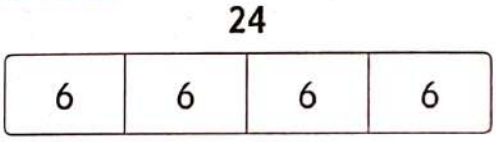
Ali has 40 toys, he would like to split evenly among 5 friends.
How many toys should each friend receive ?

Work area

____ ÷ ____ = ____ ____ toys

Write a story problem that matches the bar model below.

Work area



Challenge

- Amer has 25 stamps and Marian has 15 stamps.
  They put their stamps in the same book.
  Each page has 5 stamps.
  How many pages did they fill ?

Work area

• Help your child to solve the challenge.

Place a smiley face

Lesson

100 Multiplication and division fact families

Learn

Vocabulary

Fact family
a fact family is a set of related multiplication and division number sentences.

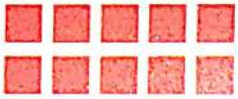
PROBLEM : Bassem pack of modeling clay has 2 rows of 5 colors. What is the fact family for the problem ?

Step 1

Count the number of rows and the number of colors in each row in the pack of clay.
There are 2 rows with 5 colors in each row.

Step 2

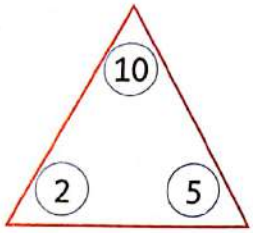
Make an array with 2 rows of 5.
Count the total number of tiles.
There are 10 tiles.



Step 3

Write two multiplication sentences and two division sentences that describe the array.

$2 \times 5 = 10$	$10 \div 5 = 2$
$5 \times 2 = 10$	$10 \div 2 = 5$



So, these related number sentences make the fact family for 2, 5 and 10.

Note

The array shows the fact family for 4 , 4 and 16.

Since both factors are the same, there are only two number sentences in this fact family.

$4 \times 4 = 16$	$16 \div 4 = 4$

$4 \times 4 = 16$

factor factor product

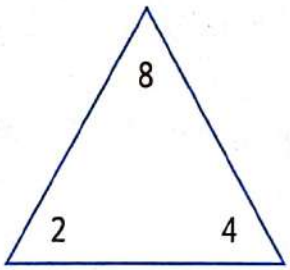
Notes for parents

- Ask your child to write another set of numbers that has only two number sentences in the fact family for it.

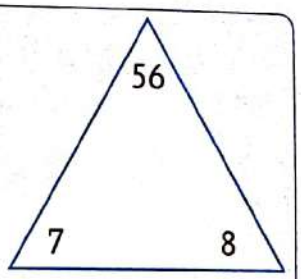
Check

Write the fact family for each set of numbers in each triangle. The first one is done for you.

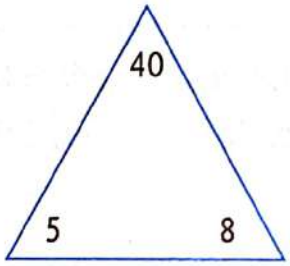
2 × 4 = 8
4 × 2 = 8
8 ÷ 2 = 4
8 ÷ 4 = 2



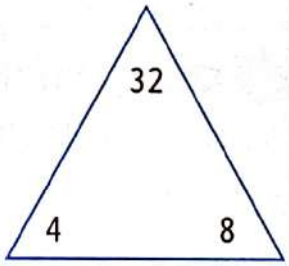
___ × ___ = ___
___ × ___ = ___
___ ÷ ___ = ___
___ ÷ ___ = ___



___ × ___ = ___
___ × ___ = ___
___ ÷ ___ = ___
___ ÷ ___ = ___

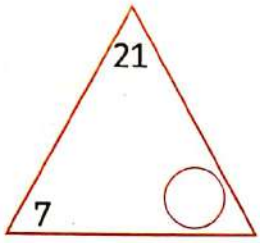


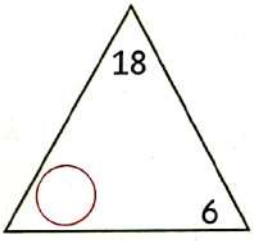
___ × ___ = ___
___ × ___ = ___
___ ÷ ___ = ___
___ ÷ ___ = ___

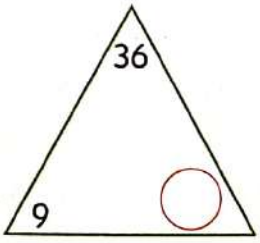


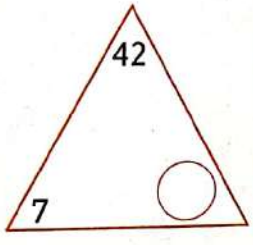
Practice

Find the missing factor in each triangle below. Then write the four numbers sentences that go with the fact family.









• Ask your child to write the fact family of the numbers 5, 7 and 35.

Choose which number sentence is not included in the same fact family.

7 × 4 = 28

- ○ 28 ÷ 7 = 4
- ○ 5 × 7 = 35
- ○ 28 ÷ 4 = 7

18 ÷ 3 = 6

- ○ 18 ÷ 6 = 3
- ○ 3 × 6 = 18
- ○ 9 × 2 = 18

42 ÷ 7 = 6

- ○ 7 × 6 = 42
- ○ 6 × 7 = 42
- ○ 30 ÷ 5 = 6

Choose the three numbers that can make a fact family.
Then write the four related multiplication and division sentences.

8 5 4 6 30

6 54 8 9 4

24 3 5 12 4

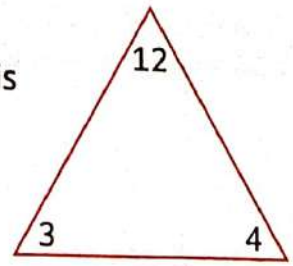
72 8 81 9 7

Notes for parents

- Provide your child a space to explain his/her methods of thinking by drawing or use a set of counters to solve the problems.

Challenge

o Write a multiplication and division story problem about this fact family.



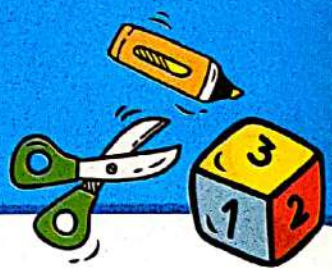
Multiplication story problem

Division story problem

• Help your child to write a multiplication story problem and a division story problem related with the numbers 3 , 4 and 12.

Place a smiley face

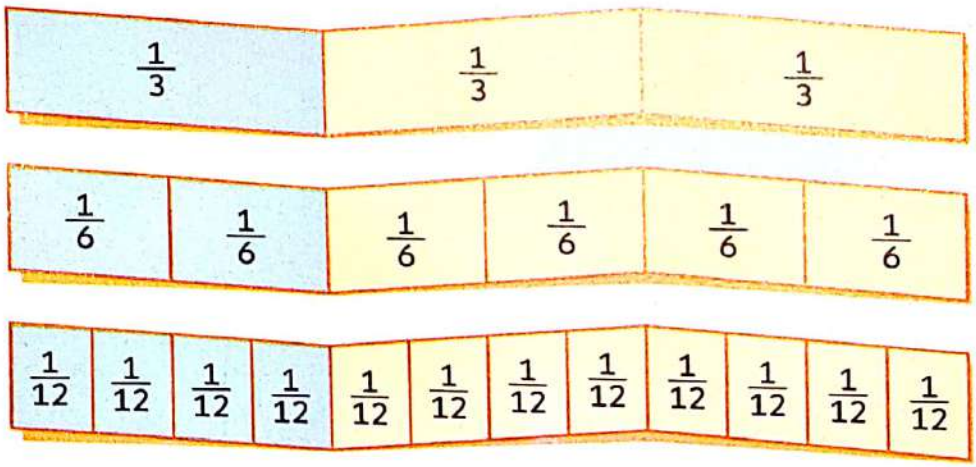
Activity
Chapter 4



Draw to Explain

- Sometimes you can best explain your thinking by drawing a picture or diagram.
- Find two fractions that are equivalent to $\frac{1}{3}$. Use crayons and strips of paper to make diagrams of equivalent fractions.
- First, cut three strips of paper that are the same size. Next, fold the strips by using different numbers of folds to show $\frac{1}{3}$.

- Draw lines to show the folds and shaded $\frac{1}{3}$ of each strip.



$\frac{1}{3} = \frac{2}{6}$

$\frac{1}{3} = \frac{4}{12}$

Your drawings prove that $\frac{1}{3}$, $\frac{2}{6}$ and $\frac{4}{12}$ are equivalent fractions.

Problem Solving

Fold paper strips to show fractional parts. Draw lines to show the folds.

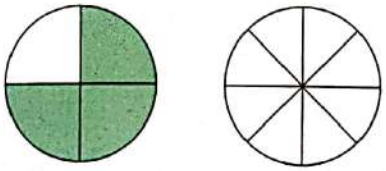
Shade some parts to show the fractions. Then explain what you did. Use your drawings to show your solution.

1. Find an equivalent fraction for $\frac{2}{3}$.
2. Find an equivalent fraction for $\frac{3}{4}$.

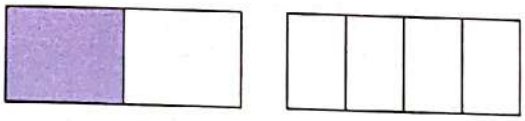
Extra Practice

Chapter 4

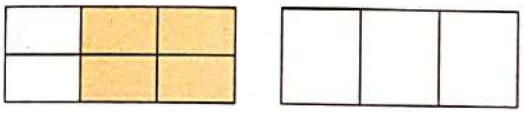
1 Color and write the equivalent fractions.



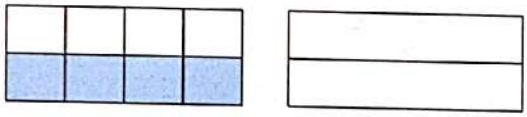
$\frac{3}{4} = \frac{\quad}{\quad}$



$\frac{1}{2} = \frac{\quad}{\quad}$



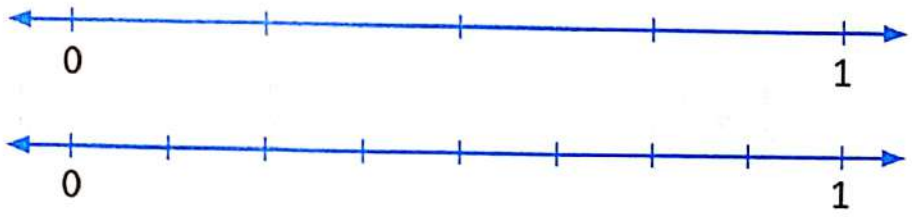
$\frac{4}{6} = \frac{\quad}{\quad}$



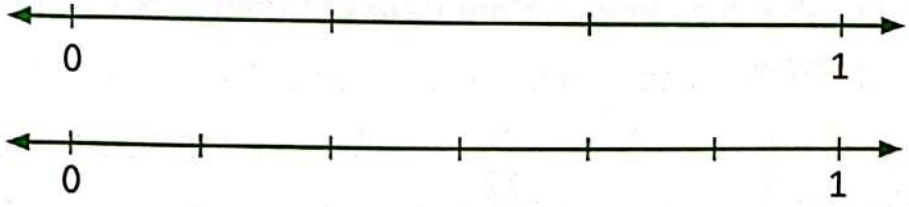
$\frac{4}{8} = \frac{\quad}{\quad}$

2 Complete by using number line.

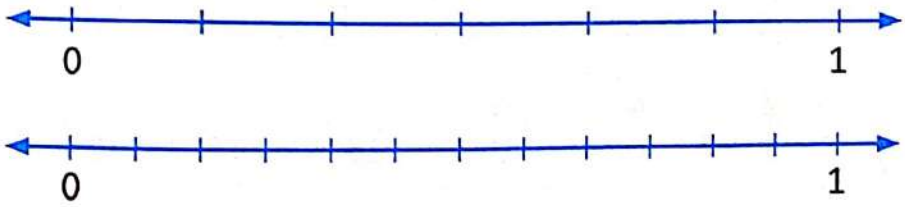
$\frac{3}{4} = \frac{\quad}{\quad}$



$\frac{2}{3} = \frac{\quad}{\quad}$



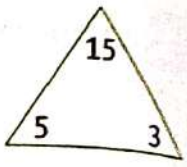
$\frac{5}{6} = \frac{\quad}{\quad}$



• In this practice your child will review on all what he/she had learned in chapter 4

3 Write the fact family for each of the following.

2 , 4 , 8	4 , 6 , 24	
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____



4 Choose the correct answer.

$\frac{2}{3} = \frac{__}{__}$ ($\frac{4}{8}$ or $\frac{6}{12}$ or $\frac{4}{6}$)

$\frac{5}{7} = \frac{__}{21}$ (10 or 15 or 25)

$\frac{1}{4} = \frac{7}{__}$ (28 or 7 or 14)

$\frac{4}{8} = \frac{__}{__}$ ($\frac{1}{2}$ or $\frac{3}{4}$ or $\frac{1}{4}$)

5 Look for a pattern. Complete the next three fractions and describe the pattern.

$\frac{1}{4}$, $\frac{2}{8}$, $\frac{3}{12}$, $\frac{4}{__}$, $\frac{5}{__}$, $\frac{6}{__}$

Description of the pattern : _____

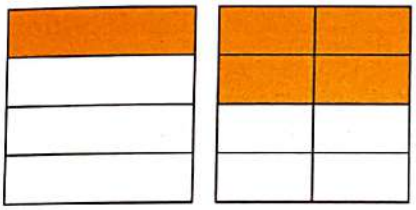
$\frac{2}{3}$, $\frac{4}{6}$, $\frac{6}{9}$, $\frac{__}{12}$, $\frac{__}{15}$, $\frac{__}{18}$

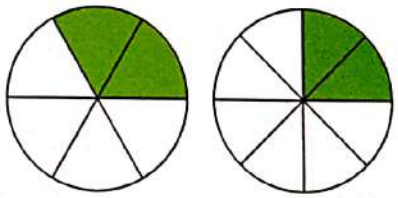
Description of the pattern : _____

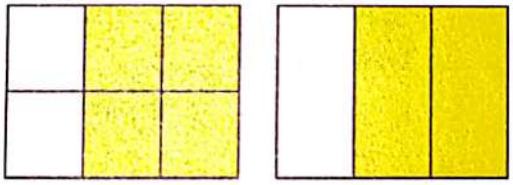
6 Write 2 different equivalent fractions to each of the following.

$\frac{1}{2} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$	$\frac{4}{5} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$
$\frac{2}{3} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$	$\frac{1}{4} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$

7 Write if the fractions are equivalent or not equivalent.







8 Omnia and Rawan each made a pizza of the same size, Omnia's pizza was cut into sixths and Rawan's pizza was cut into twelfths, Omnia ate $\frac{2}{6}$ of her pizza. If Rawan wants to eat the same amount of pizza as Omnia.

How many slices of pizza will she have to eat ? (Write answers as a fraction) "Draw a number line or model to help solve the problem".

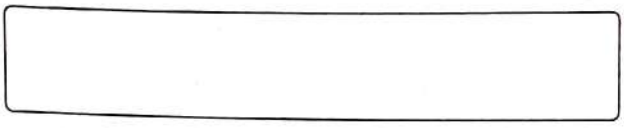
Work area

9 Adam placed 30 toys equally in 5 boxes.

How many toys are in each box ?

Work area

30



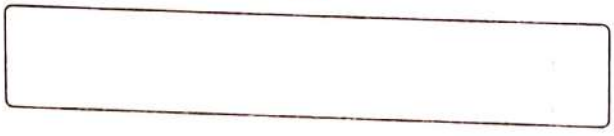
_____ toys : _____ ÷ _____ = _____

10 A father distributed 24 L.E. among his three sons equally.

Find the share of each son.

Work area

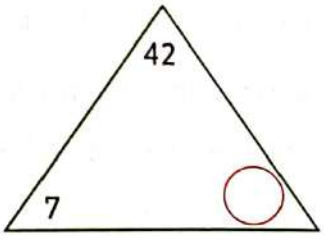
24

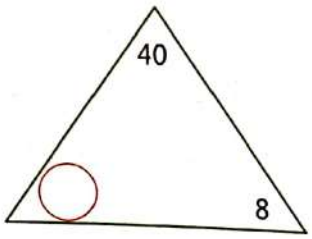


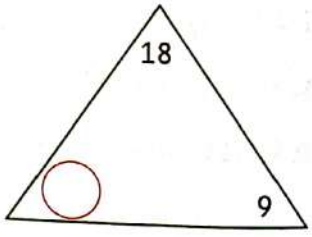
_____ L.E.

_____ ÷ _____ = _____

11 **Find the missing factor in each fact family and write four number sentences of the fact family.**





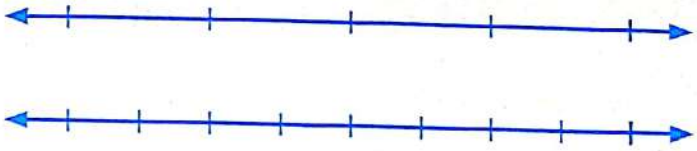


Assessment
Chapter 4

1 Complete the following.

① $\frac{3}{5} = \frac{\quad}{25} = \frac{9}{\quad}$ | ② $\frac{1}{2} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$ | ③ $\frac{1}{2} = \frac{4}{\quad} = \frac{\quad}{12}$

④ From the opposite number line $\frac{3}{4} =$ _____

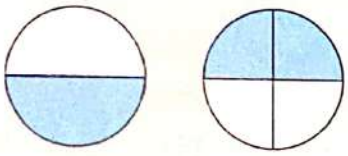


2 Choose the correct answer.

① $\frac{2}{7} =$ _____ ($\frac{4}{21}$ or $\frac{4}{14}$ or $\frac{2}{3}$)

② $\frac{2}{3}$ and $\frac{4}{6}$ are _____ (equivalent or not equivalent)

③ Using opposite model



$\frac{1}{2} =$ _____ ($\frac{1}{3}$ or $\frac{1}{4}$ or $\frac{2}{4}$)

④ $\frac{4}{6} = \frac{2}{\quad}$ (2 or 3 or 6)

3 Nermin has 18 eggs and wants to put them equally in 3 plates.

How many eggs are there in each plate ?

"Draw to show the division problem in a bar model"

Work area

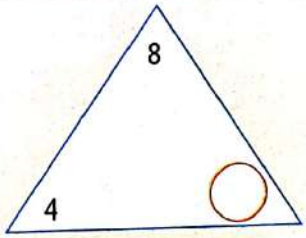
_____ ÷ _____ = _____

The quotient is _____

4 Find the missing factor and write four numbers sentences of fact family.

_____ × _____ = _____ | _____ ÷ _____ = _____

_____ × _____ = _____ | _____ ÷ _____ = _____



Chapter 5

Outcomes

At the end of chapter five, your child will be able to:

Lesson 101

- Develop fluency in multiplying one-digit numbers.
- Identify strategies to help him/her remember multiplication facts.

Lessons 102 & 103

- Investigate relationships between numbers in multiplication and division fact families.
- Write equations to represent multiplication and division relationships within a fact family.
- Explain how he/she can use the relationship between multiplication and division fact families to master math facts.
- Use a symbol to represent an unknown number in an equation.
- Write equations with one unknown number to represent story problems.
- Solve equations with one unknown.

Lessons 104 & 105

- Write story problems that represent given equations.
- Apply strategies to solve multiplication story problems.
- Apply strategies to solve division story problems.
- Define division.

Lesson 106

- Find the area and perimeter of quadrilaterals.
- Find the perimeter of shapes that are not quadrilaterals.
- Collaborate to write class definitions of area and perimeter.

Lesson 107

- Determine the missing side lengths of complex shapes when given the perimeter.
- Determine the missing side lengths of complex shapes to determine the perimeter.
- Decompose complex shapes into smaller quadrilaterals to determine the area.

Lesson 108

- Determine the perimeter of a rectangle when given the area and one dimension.

Lessons 109 & 110

- Make a house design project to demonstrate understanding of area and perimeter.

Key vocabulary

- Fluency
- Division
- Divisor
- Story problem
- Complex shape
- Product
- Quotient
- Equation
- Area

Factor pairs

- Fact family
- Factor
- Symbol
- Perimeter
- Dimensions
- Multiplication
- Dividend
- Unknown
- Square units

Lesson 101

Different multiplication strategies

Learn

- You can multiply by using a variety of strategies to practice on multiplication and this is the best way to build fluency with multiplication facts.

Here are some useful multiplication strategies :

Multiplying by 0

The product equals 0

Example : 0×7

$0 \times 7 = 0$

The product always equals 0

1 as a factor

The product equals the same factor.

Example : 1×6

$1 \times 6 = 6$

The product equals the same factor.

2 as a factor

- Double it

or - Skip count by 2s

Example : 2×3

$3 + 3 = 6$

or

2 , 4 , 6

Double 3
"add 3 to itself"
or
count by 2s three times.

3 as a factor

- Double and add one more group of the second factor

or - Count by 3s

Example : 3×4

$2 \times 4 = 8$

$8 + 4 = 12$

or

3 , 6 , 9 , 12

Double 4 and then add another group of 4
or
count by 3s four times.

4 as a factor

Double the double.

Example : 4×6

$2 \times 6 = 12$

$12 + 12 = 24$

Double 6 and then double the product 12 to get the product 24.

5 as a factor

Count by 5s

Example : 5×4

5 , 10 , 15 , 20

Count by 5s four times.

Notes for parents

Connect :

- Train your child to solve story problems on addition and subtraction involving lengths.

6 as a factor

Multiply by 5 and add one more group of the second factor.

Example : 6×7

$7 \times 5 = 35$

$35 + 7 = 42$

Multiply by 5 and add another group of 7.

7 as a factor

Multiply by 5 and 2, then add the products together "use distributive property of multiplication".

Example : 7×4

$5 \times 4 = 20$

$2 \times 4 = 8$

$20 + 8 = 28$

Multiply by 5 , multiply by 2 and add the products.

8 as a factor

- Double 4s facts

or

- Multiply by 5s and 3s then add the products together "use distributive property of multiplication".

Example : 8×6

$4 \times 6 = 24$

$24 + 24 = 48$

Double 4s facts and add 24 to itself

or

$5 \times 6 = 30$

$3 \times 6 = 18$

$30 + 18 = 48$

or

multiply by 5 and multiply by 3, then add the products.

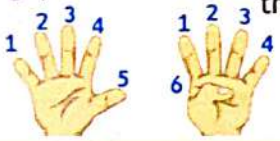
9 as a factor

Finger trick.

Example : 9×6

$9 \times 6 = 54$

Count the fingers to the sixth finger and count the rest fingers.



10 as a factor

Put 0 after the other factor.

Example : 10×8

$10 \times 8 = 80$

Put 0 after 8.

11 as a factor

Multiply by 10 and add one more group of the second factor "use distributive property of multiplication".

Example : 11×4

$10 \times 4 = 40$

$40 + 4 = 44$

Multiply by 10 and add one more group of 4.

12 as a factor

Multiply by 10 and 2, then add the products together "use distributive property of multiplication".

Example : 12×6

$10 \times 6 = 60$

$2 \times 6 = 12$

$60 + 12 = 72$

Multiply by 10 and multiply by 2, then add the products.

• Ask your child which strategy does he/she prefer to use and apply.

Check

Use strategies to correct the products.

$7 \times 5 = 30$	$2 \times 4 = 6$	$11 \times 6 = 60$

Practice

Solve the multiplication problems below.

$7 \times 3 =$ ____	$9 \times 4 =$ ____	$6 \times 1 =$ ____	$3 \times 5 =$ ____
$8 \times 0 =$ ____	$11 \times 1 =$ ____	$2 \times 2 =$ ____	$5 \times 7 =$ ____
$5 \times 9 =$ ____	$10 \times 2 =$ ____	$4 \times 6 =$ ____	$8 \times 10 =$ ____
$2 \times 8 =$ ____	$4 \times 3 =$ ____	$1 \times 0 =$ ____	$8 \times 4 =$ ____
$3 \times 6 =$ ____	$1 \times 9 =$ ____	$7 \times 7 =$ ____	$2 \times 12 =$ ____
$10 \times 10 =$ ____	$9 \times 4 =$ ____	$2 \times 7 =$ ____	$7 \times 11 =$ ____
$5 \times 1 =$ ____	$6 \times 8 =$ ____	$9 \times 9 =$ ____	$4 \times 6 =$ ____
$12 \times 4 =$ ____	$5 \times 5 =$ ____	$7 \times 8 =$ ____	$6 \times 6 =$ ____
$9 \times 6 =$ ____	$2 \times 4 =$ ____	$0 \times 10 =$ ____	$8 \times 9 =$ ____

Notes for parents

- Ask your child to mention the strategy he/she used to solve each multiplication problem. Let him/her tell which table he/she is suitable with its problems.

Match the equal products.

3 × 6	8 × 3
6 × 4	6 × 6
10 × 4	12 × 4
6 × 8	9 × 2
4 × 9	5 × 8

Compare the following products using >, < or =.

4 × 8	◯	11 × 3	4 × 10	◯	3 × 11
1 × 0	◯	0 × 10	1 × 9	◯	0 × 12
3 × 9	◯	7 × 4	5 × 8	◯	3 × 10
12 × 5	◯	10 × 6	2 × 7	◯	5 × 7
7 × 10	◯	9 × 8	7 × 9	◯	8 × 5
2 × 12	◯	4 × 6	4 × 12	◯	5 × 11
6 × 9	◯	8 × 7	7 × 6	◯	6 × 7

• Practice your child on multiplication problems, tell him/her any two numbers and ask him/her to find thier product.

Solve the following multiplication tables.

×	1	4	3	10	9	7
5						

×	8	1	5	10	9	12
2						

×	2	7	11	8	3	10
6						

×	3	8	12	9	6	2
4						

×	0	2	10	12	9	4
7						

×	2	7	10	8	6	11
3						

Who am I ?

The product is an even number less than 27. One factor of the product is 3. Another factor of the product is 8.

What number am I ?

_____

I have a zero in my ones place.
One of my factros is 2.
I am the double of 10.

What number am I ?

_____

If you double the digit in my tens place, you get the digit in my ones place.
I am a product of two equal factors.
12 is one of my factors.

What number am I ?

_____

I have 6 different factors.
I have a 1 in my tens place.
6 is one of my factors.

What numbers might I be ?

_____ or _____

Notes for parents

- Help your child to find the products in this page.

Place a smiley face

Lessons

102 & 103

Solving multiplication and division equations with one unknown

Remember

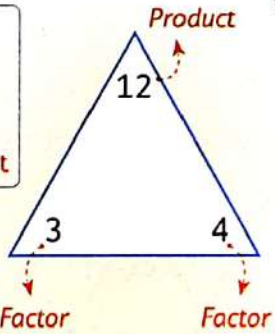
Fact family triangle for 3 , 4 , 12

In multiplication

$3 \times 4 = 12$

$4 \times 3 = 12$

factor factor product

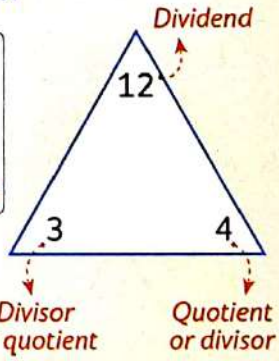


In division

$12 \div 3 = 4$

$12 \div 4 = 3$

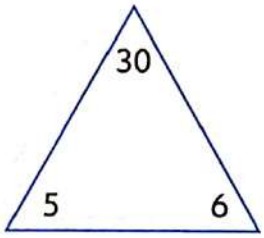
dividend divisor quotient



Check

Use fact family triangle to write the multiplication and division equations.

Multiplication equations	Division equations



Practice

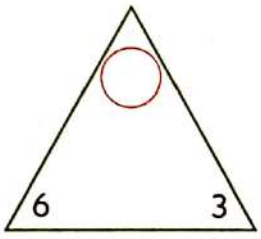
Find the product. Write the other fact family of each.

6 × 3 = ____

____ × ____ = ____

____ ÷ ____ = ____

____ ÷ ____ = ____

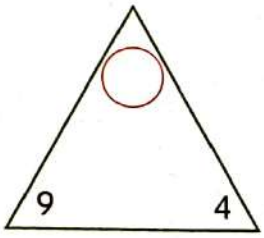


9 × 4 = ____

____ × ____ = ____

____ ÷ ____ = ____

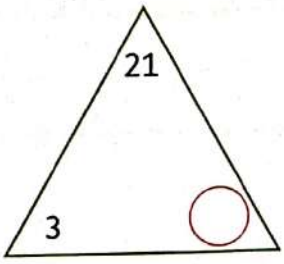
____ ÷ ____ = ____

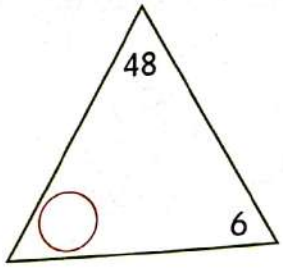


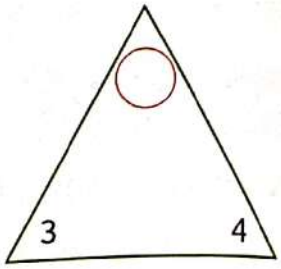
Connect :

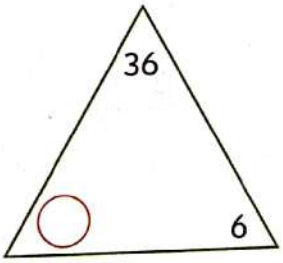
- Let your child discover the error in multiplication problem (as : $4 \times 5 = 25$, because : $5 + 5 + 5 + 5 + 5 = 25$).

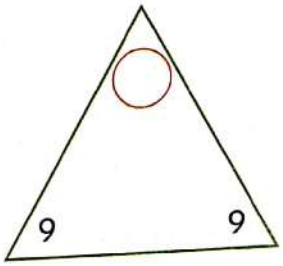
For each of the following triangles. Determine the unknown and record it.

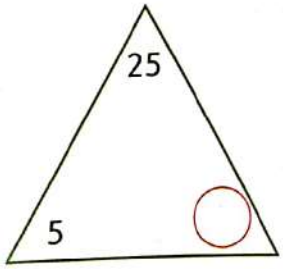


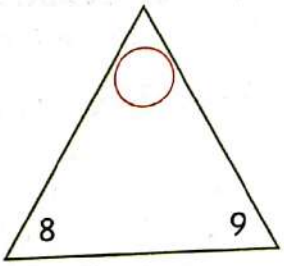


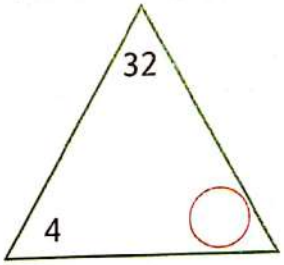


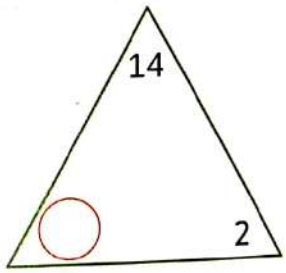


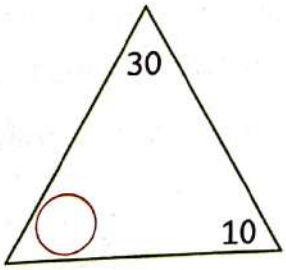


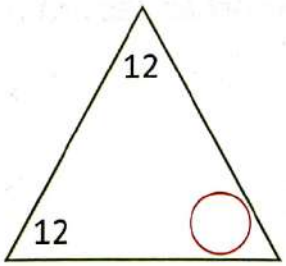


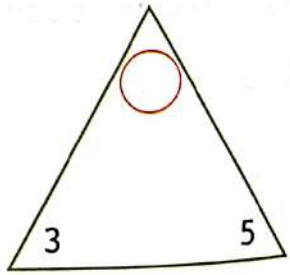












Notes for parents

- Help your child to find the unknown number in each problem and ask him/her to tell you the represented equation for each fact family triangle.

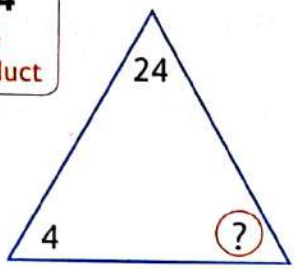
Learn Solving equations with one unknown

- You can think and use fact family triangle to solve equations with unknown number and here are some examples to show.

4 × ? = 24

factor factor product

4 multiplied what number and the product is 24 ?

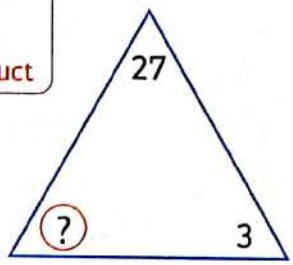


4 × 6 = 24

? × 3 = 27

factor factor product

What number multiplied by 3 the product is 27 ?

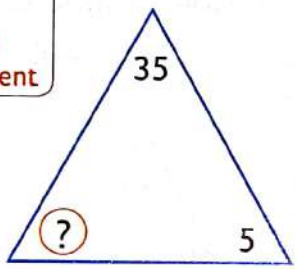


9 × 3 = 27

35 ÷ ? = 5

dividend divisor quotient

35 divided by what number, the quotient is 5 ?

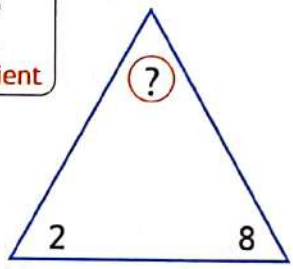


35 ÷ 7 = 5

? ÷ 2 = 8

dividend divisor quotient

What number divided by 2, the quotient is 8 ?

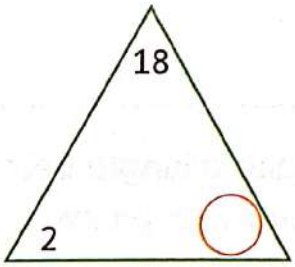


16 ÷ 2 = 8

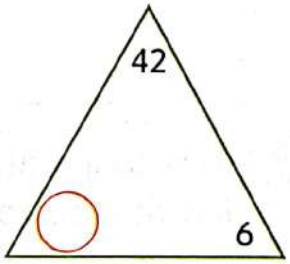
Check

Determine the missing number in each equation.

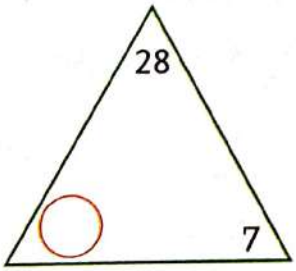
2 × ☐ = 18



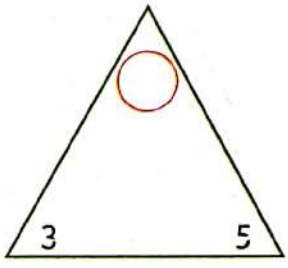
☐ × 6 = 42



28 ÷ ☐ = 7



☐ ÷ 3 = 5



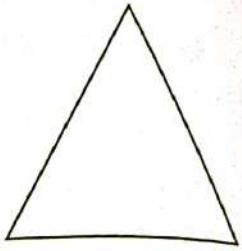
- Help your child to determine the missing numbers and let him/her explain how to solve it using fact family triangle.

Practice

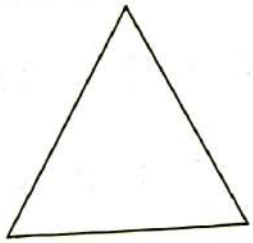
Determine the missing number in each equation below. Use fact family triangle to solve. Record the missing number in the empty box.

$7 \times \square = 21$

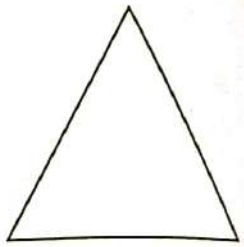
$10 \div \square = 5$



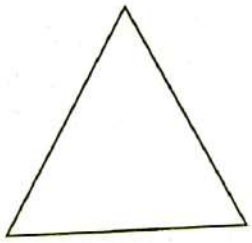
$\square \times 4 = 32$



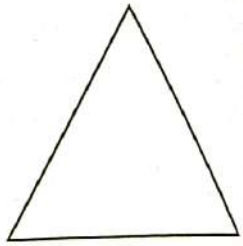
$\square \div 3 = 9$



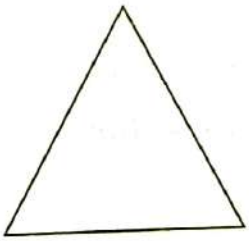
$8 \times \square = 16$



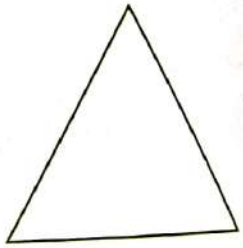
$49 \div \square = 7$



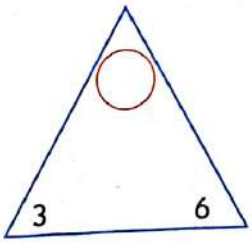
$\square \times 6 = 36$

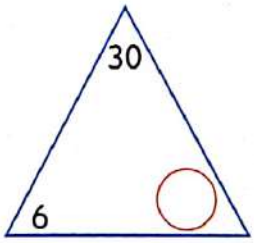


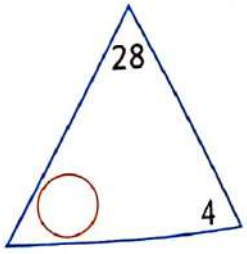
$\square \div 8 = 3$



Write an equation which represents each triangle below. Find the unknown numbers.







Notes for parents

- Ask your child to pick one problem in this page and tell the other fact family for it.

Learn Solving multiplication and division story problems

Bassem just has to look at his collection to remember the fun places he has been.
He collects a postcard from every place he visit.

Examples :

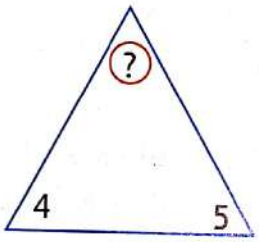
- Bassem has 4 groups of 5 postcards.

  How many postcards does he have ?

  The problem is : **4 × 5 = ?**

  Think :

  4 × 5 = 20



  So, he has 20 postcards.

- Bassem puts 20 postcards in equal groups of 5.

  How many groups are there ?

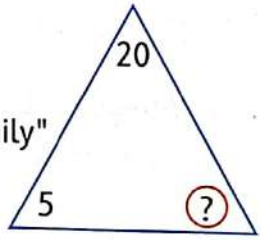
  The problem is : **20 ÷ 5 = ?**

  Think :

  5 times what number equals 20 ? "Use fact family"

  5 × 4 = 20

  Then : **20 ÷ 5 = 4**



  So, there are 4 groups.

Check

Math tip

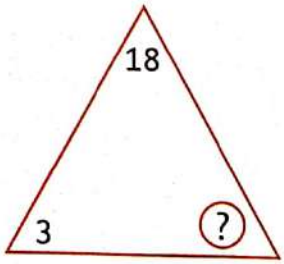
You can think about multiplication and fact families to divide.

Solve the problem using fact family triangle.

Sylvia wants to distribute 18 apples among 3 boxes.

How many apples in each box ?

Problem equation : _____



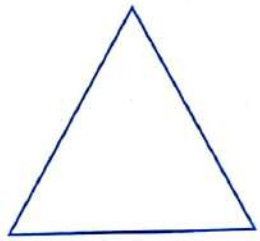
• Ask your child to mention you the used multiplication fact to solve the check problem.

Practice

Read each story problem below. For each problem, write an equation with an unknown to represent what is happening in the story. Then, solve the story problem. You may use a fact family triangle to help you with your work.

- Sara puts each 6 pieces of cake in one plate.

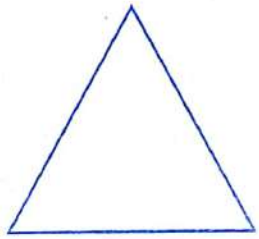
  How many pieces of cake does she put in 7 plates ?



_____

- Hamza bought 6 notebooks. He paid 48 pounds.

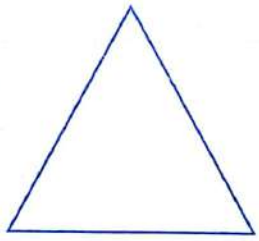
  What is the cost of each notebook ?



_____

- Omar studies 4 hours every day.

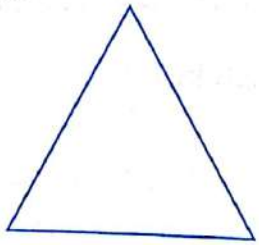
  How many hours does he spend in studying for 9 days ?



_____

- The zookeeper has 21 pieces of meat. Each lion at the zoo gets 3 pieces. If all the lions get fed.

  How many lions are there at the zoo ?



_____

Notes for parents

- Help your child to read and understand each problem and write the equation for the unknown number.

- Salma has 7 boxes of colors.
  Each box contains 6 colors.

  How many colors are there in all ?

_____

- Ashraf and his friends walked to the zoo.
  Each ticket costs 5 L.E. If Ashraf and his friends spend 35 L.E. all together.
  How many tickets did they buy ?

_____

- Gamal divided 42 L.E. equally among his friends.
  If the share of each friend was 6 L.E.

  How many friends does Gamal have ?

_____

- Emad's class can hold 24 children.
  If there are 4 rows.
  How many disks are in each row ?

_____

• Let your child use the fact family to help solving these word problems.

Place a smiley face

Lessons 104 & 105

Writing multiplication and division story problems relate to a question

Learn

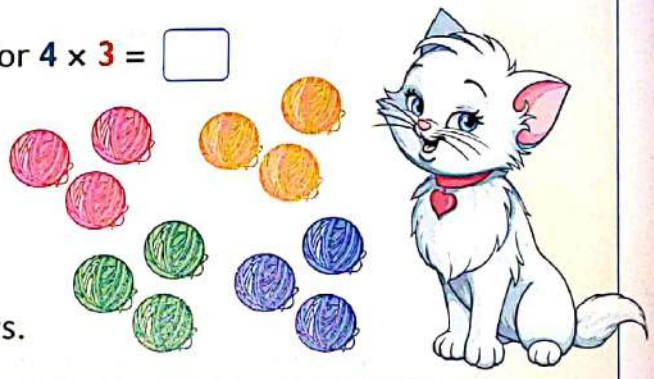
Tips to write a story problem :

- Think about real life situation represents the problem.
- Always end the story with a question.
- You may draw a picture to show the main idea.

Example :

Maria wrote a multiplication story for $4 \times 3 = \square$

A girl had 4 cats. Her cats liked to run, jump, and play with toys. The girl bought 3 toys for each cat. How many toys did she buy ?

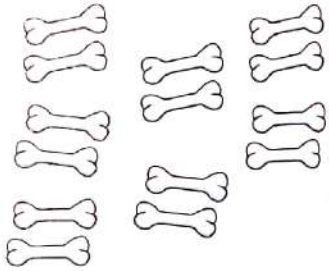


$4 \times 3 = 12$ She bought **12** toys.

Example :

Asser wrote a division story for $14 \div 2 = \square$

A boy gives his dog 2 dogs treats each day. He has 14 dogs treats. How many days will the dog treats last ?



$14 \div 2 = 7$ It will last for **7** days.

Check

Youssef wrote the opposite story problem as a multiplication story problem, is he right ? If it is wrong, correct the story to match a multiplication story problem. _____

Perry had 12 eggs. She used 3 eggs to make one muffin. How many muffins did she make ?

Notes for parents

Connect :

- Train your child to solve 2–steps story problems involving mass, addition and multiplication.

Practice

Write a multiplication story problem that could be represented by the equation shown. Solve the problem to show the result.

$3 \times 6 = \square$

Math tip

The multiplication story problem may include :

- *Having multiple bags containing an equal number of things.*
- *Determining how much money you pay if you buy some things of the same price.*
- *Determining how many item you need to give some friends the same amount of it.*

$5 \times 4 = \square$

$7 \times 8 = \square$

- Help your child to think about real life situation. You may look at the last lessons to guide you and your child in writing story problems.

Write a division story problem that could be represented by the equation shown. Solve the problem to show the result.

$30 \div 6 = \square$

Math tip

The division story problem may include :

- *Sharing a large group into smaller equal parts.*
- *Breaking up a number into equal parts.*
- *Asking about the quotient.*

$49 \div 7 = \square$

$72 \div 8 = \square$

Notes for parents

Chapter 5
Lessons
104 & 105

- Let your child to talk about the story before writing it and figure out the situation. Use the last lessons as a guide to help in writing story problems.

Place a smiley face

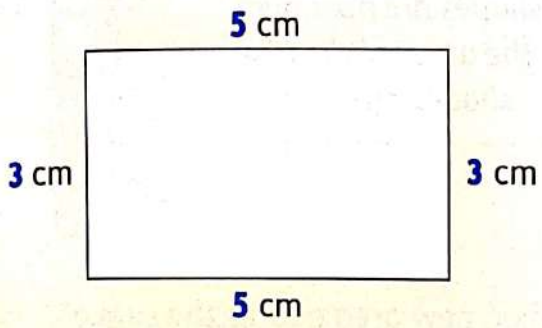
Lesson

106 Perimeter and area

Learn

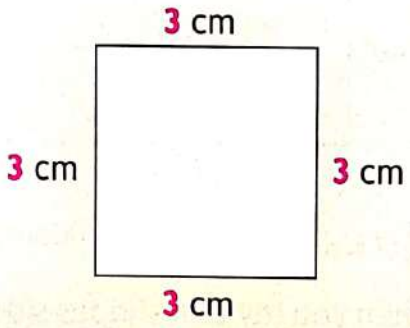
Ayman and Huda are two friends. Each of them draw a sketch for each favorite shape and calculated the perimeter and the area of the drawn shapes.

Ayman's sketch



Perimeter = 5 + 3 + 5 + 3 = 16 cm
Area = 5 × 3 = 15 square cm

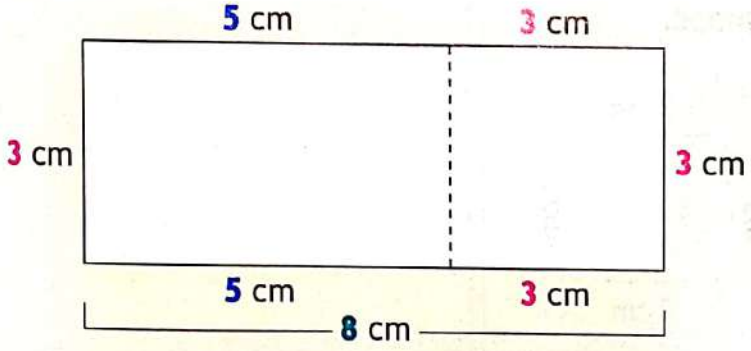
Huda's sketch



Perimeter = 3 + 3 + 3 + 3 = 12 cm
Area = 3 × 3 = 9 square cm

Then they laid their shapes side by side to make a new shape and calculate the perimeter and the area of the new shape.

Ayman's way

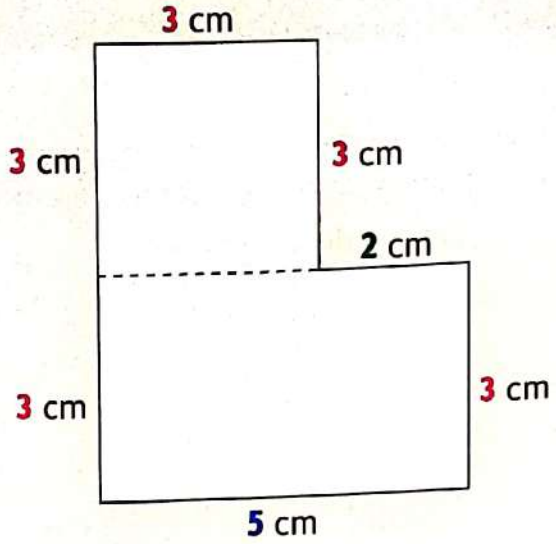


Perimeter = 8 + 3 + 8 + 3 = 22 cm
Area = 3 × 8 = 24 square cm
or = 15 + 9 = 24 square cm

Hint :
Perimeter does not include the inner side.

Connect :
• Train your child to solve 2-steps story problems involving addition and subtraction.

Huda's way



Perimeter = 3 + 3 + 3 + 2 + 3 + 5 + 3 = 22 cm

Area = 15 + 9 = 24 square cm

The perimeters of the new shapes are not equal, the areas of the new shapes are equal.

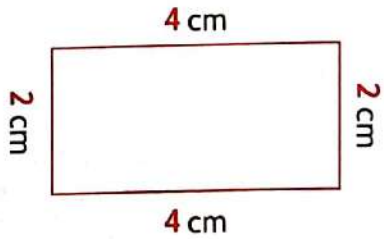
Notice

When you lay two shapes side by side together, new area equals the sum of the two areas but perimeter does not equal the sum of the two perimeters.

Check

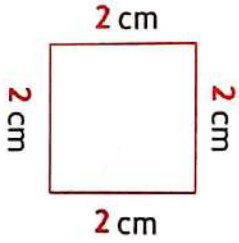
Find the perimeter and the area of each of the following figures ,then lay the figures side by side and calculate the perimeter and the area of the new shape.

Work area



Perimeter = ____

Area = ____



Perimeter = ____

Area = ____

Perimeter = ____

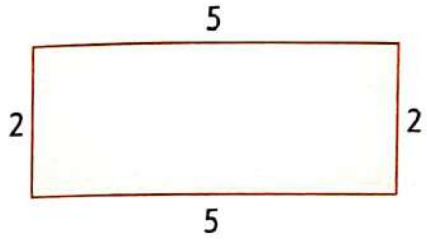
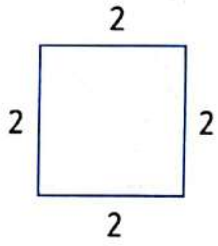
Area = ____

Notes for parents

- Let your child tell the other way to put the figures side by side.

Practice

Calculate the perimeter and the area of each figure, then lay the figures side by side and find the perimeter of the area of the new shape.

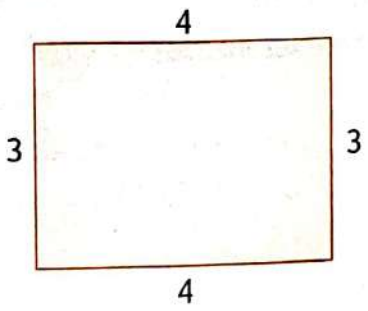
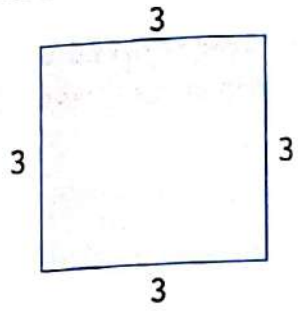
First figure	Second figure
	
Perimeter = _____	Perimeter = _____
Area = _____	Area = _____

The two figures side by side

Perimeter = _____

Area = _____

• Help your child to lay the shapes side by side with the right way and remind him/her to not to that perimeter does not include the inner side.

First figure	Second figure
 Perimeter = _____ Area = _____	 Perimeter = _____ Area = _____

The two figures side by side

Perimeter = _____

Area = _____

Notes for parents

- Help your child to lay the shapes side by side with another way.

Sketch each shape and label it. Calculate the perimeter and the area of each shape.

Draw a rectangle which is 2 cm wide and 3 cm long.

Perimeter = _____

Area = _____

Draw a square that has side length of 4 cm.

Perimeter = _____

Area = _____

Sketch each shape and label it, then complete.

Draw a triangle with a perimeter of 14 cm.

The side lengths are _____

Draw a square with a perimeter of 12 cm.

The side length is _____

Draw an octagon with a perimeter of 16 cm.

The side lengths are _____

Draw a hexagon with a perimeter of 18 cm.

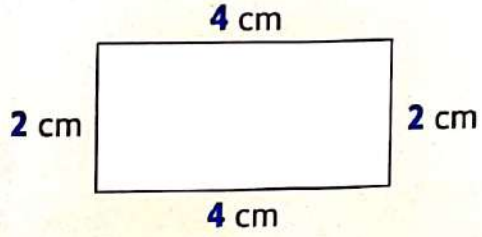
The side lengths are _____

Help your child to draw the shape. let him/her know that we divide perimeter on the number of sides to find the side length of each side.

Learn Equal perimeters

- There are more than one figure that look different but have the same perimeter.
- All the following figures have the same perimeter of 12 cm.

Rectangle with 4 cm length and 2 cm width.

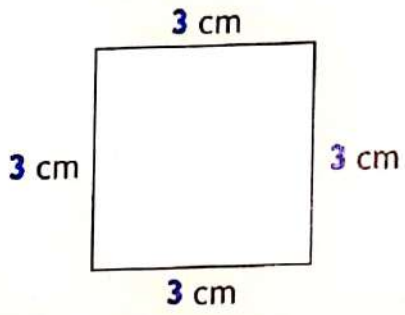


Perimeter = 2 + 4 + 2 + 4 = 12 cm

Rectangle with 5 cm length and 1 cm width.

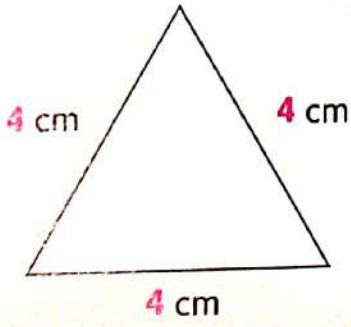
Perimeter = 1 + 5 + 1 + 5 = 12 cm

Square with 3 cm length.



Perimeter = 3 + 3 + 3 + 3 = 12 cm

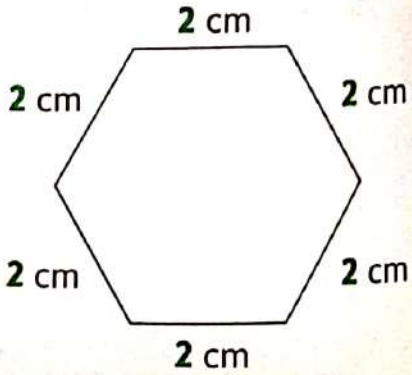
Triangle with 4 cm length.



Perimeter = 4 + 4 + 4 = 12 cm

Hexagon with 2 cm length.

Perimeter = 2 + 2 + 2 + 2 + 2 + 2 = 12 cm



Notes for parents

- Ask your child to draw 2 figuers of the same perimeter of 16 cm.

Practice

Draw a rectangle which is 3 cm wide and 5 cm long.
Calculate the perimeter and the area of the rectangle.
Draw a square with the same perimeter and label each side.

Draw a square of side length of 6 cm.
Calculate the perimeter and the area of the square.
Draw an octagon that has the same perimeter and label each side.

• Help your child to solve the problems in this page.

Draw a rectangle with length of 4 cm and width of 2 cm. and draw another rectangle with length of 3 cm and width 2 cm. Calculate the perimeter of each rectangle. Lay the two rectangles side by side to make one long rectangle and then **find the perimeter and the area of the long rectangle.**

Draw a sketch for a hexagon with perimeter of 12 cm. **Draw one quadrilateral that could has the same perimeter. Label each side.**

Notes for parents

- Remind your child that hexagon has 6 sides and octagon has 8 sides.

Draw a sketch of three rectangles next to each other. Each rectangle is 6 cm long and 3 cm wide. Calculate the perimeter and the area of one rectangle. **Then calculate the perimeter and the area of all three rectangles.**

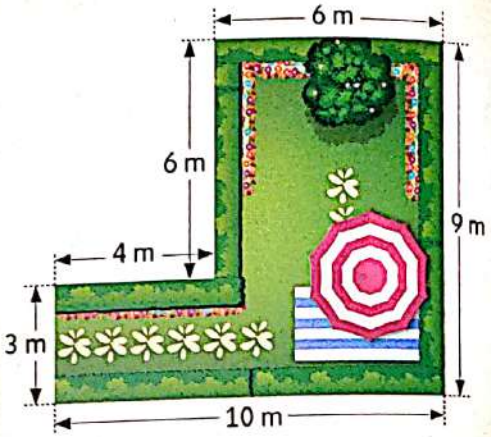
Place a smiley face

- Help your child to solve the problem in this page and show the used strategies to draw and solve.

Lesson
107 Perimeter and area of complex figures

Learn

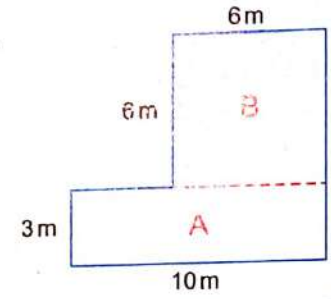
Andy wants to put a fence around his garden.
The space he will use is shown at the right.
How much fence should he buy ?
What is the area of his garden ?



Find the perimeter.
Add the lengths of the sides.
Perimeter = 10 + 3 + 4 + 6 + 6 + 9 = 38 meters
He should buy 38 meters of fence.

Find the area.
There are many ways to calculate the area.

Step 1
Separate the figure into
a rectangle **A** and a square **B**.



Step 2
Calculate to find
the area of each figure.

Area of the rectangle A
Area = length × width
= 10 × 3
= 30 square m

Area of the square B
Area = side × side
= 6 × 6
= 36 square m

Step 3
Add both areas to find
the area of the whole figure.

30 + 36 = 66 square meters

The area of the garden is 66 square meters.

Let your child guess the other way to separate the figure which help to find the area of Andy's garden.

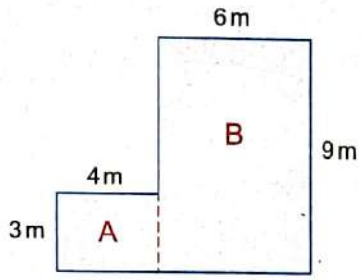
Notes for parents

Connect :
- Revise with your child the concept of perimeter and how he/she find the perimeter of irregular shape.

Another way to find area

Step 1

Separate the figure into a rectangle **A** and a rectangle **B**.



Step 2

Calculate to find the area of each figure.

Area of the rectangle A

Area = length × width
= 4 × 3
= 12 square m

Area of the rectangle B

Area = length × width
= 9 × 6
= 54 square m

Step 3

Add both areas to find the area of the whole figure.

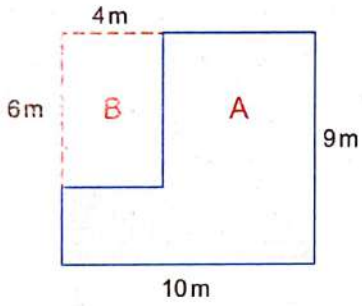
12 + 54 = 66 square meters

The area of the garden is 66 square meters.

Another way to find area

Step 1

Complete the figure as a big rectangle **A** and a small rectangle **B**.



Step 2

Calculate to find the area of each figure.

Area of the rectangle A

Area = length × width
= 10 × 9
= 90 square m

Area of the rectangle B

Area = length × width
= 6 × 4
= 24 square m

Step 3

Subtract areas to find the area of the whole figure.

90 − 24 = 66 square meters

The area of the garden is 66 square meters.

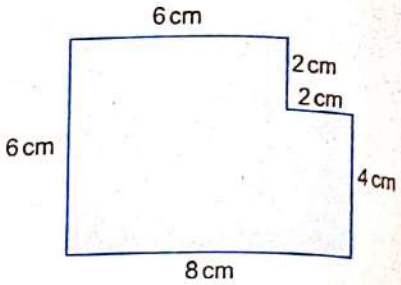
• Let your child notice that all ways finding the same area.

Check

Ask Yourself

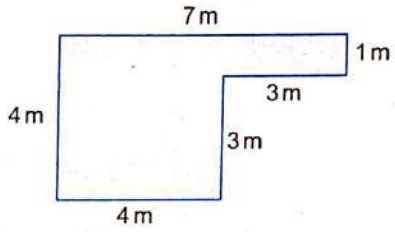
- How can I divide the figure into squares and rectangles ?
- How should I label the answer ?

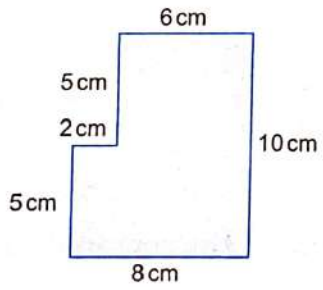
Use your prefered way to find the perimeter and the area of the opposite figure.

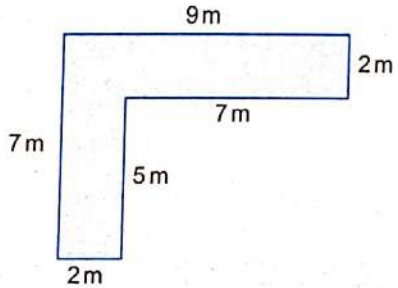


Practice

Find the perimeter and area of each figure.







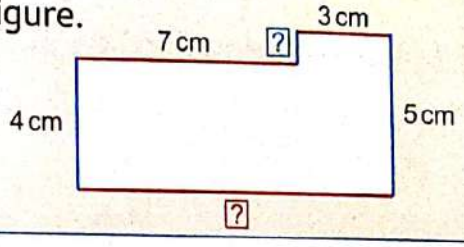
Notes for parents

- Let you child use different ways to calculate the perimeter and the area of figures in this page.

Learn Finding the perimeter and the area of a shape with unknown lengths

Find the perimeter and the area of the opposite figure.

Math Hint :
Find the unknown lengths firstly



Find the perimeter.

The length of side ? is equal to the sum of the two top parallel sides.

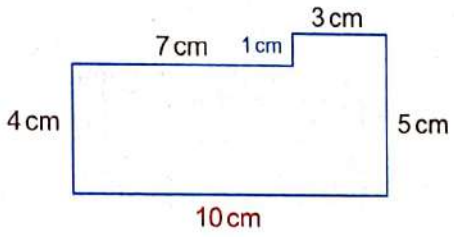
? = 7 + 3
= 10 cm

The length of side ? is equal to the difference in lengths labeled **5** cm and **4** cm

? = 5 − 4
= 1 cm

The lengths of all the sides are known.

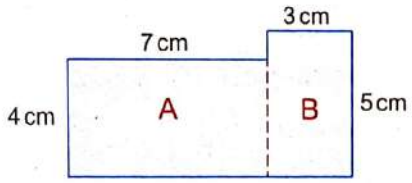
So, the perimeter of the figure is
7 + 1 + 3 + 5 + 10 + 4 = **30 cm**



Find the area.

Step 1

Separate the figure into a rectangle **A** and a rectangle **B**.



Step 2

Calculate to find the area of each figure.

Area of the rectangle A
Area = length x width
= 7 x 4
= 28 square cm

Area of the rectangle B
Area = length x width
= 5 x 3
= 15 square cm

Step 3

Add both areas to find the area of the whole figure.

28 + 15 = 43 square cm

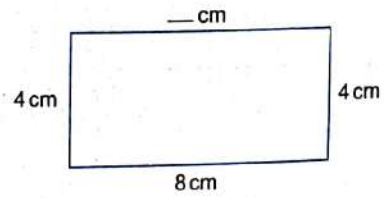
Use another way to check the answer

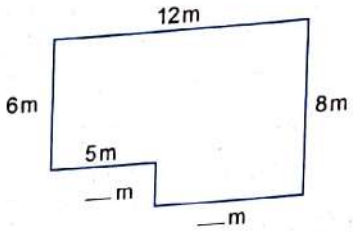
So, the area of the figure is 43 square cm

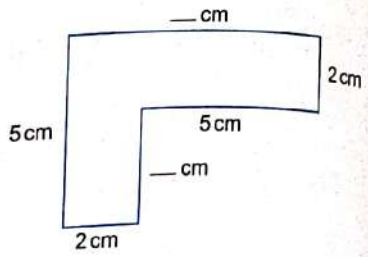
• Ask your child to use other ways to check the area of the whole shape.

Check

Label the length of each missing side.

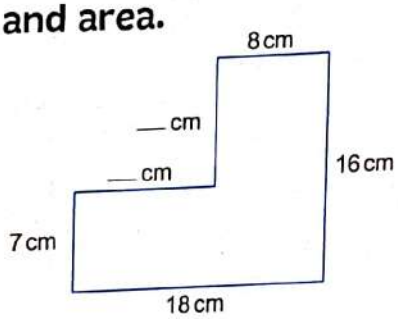






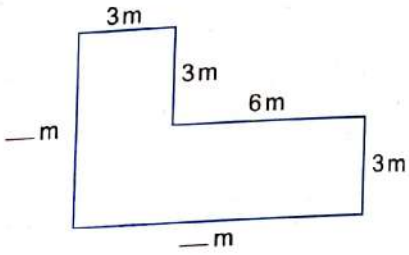
Practice

Find the length of each unknown side. Then find the perimeter and area.



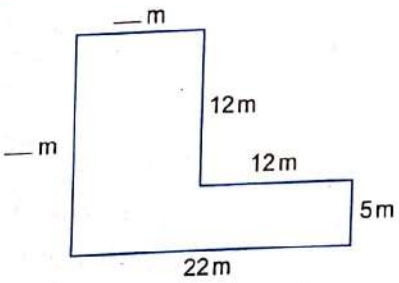
Perimeter = _____

Area = _____



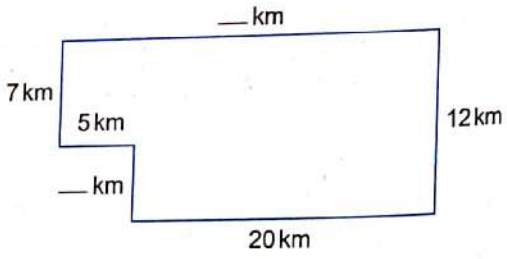
Perimeter = _____

Area = _____



Perimeter = _____

Area = _____



Perimeter = _____

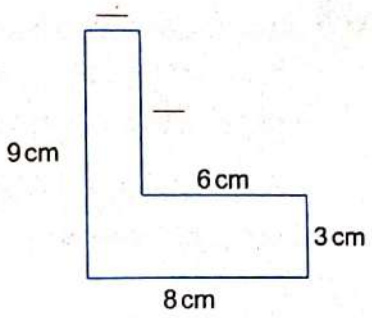
Area = _____

Notes for parents

- Help your child to find the unknown sides in this page.
- Ask your child to point to any shape in this page and find its area.

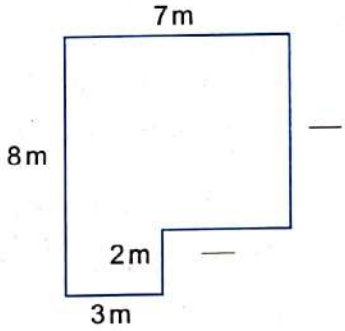
Nancy put two rectangles together to make the L-shaped opposite figure. She measured some of the side lengths and recorded them as shown. Label the missing sides and then figure out the perimeter of the shape.

Find the area of the shape.



Amgad drew a sketch for his room. Label the missing measurements.

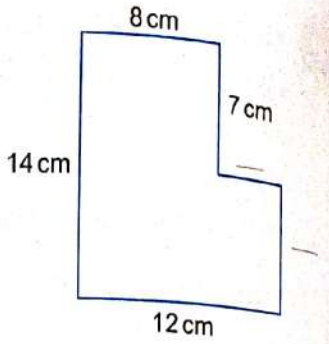
Find the perimeter and the area of Amgad's room in meters.



• Remind your child to draw dots lines to divide shapes or complete shapes to calculate areas.

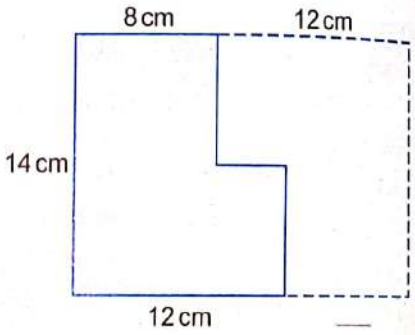
Amira drew a sketch of her garden to look like using centimeters. It looked like L-shaped opposite figure. Label the missing side lengths.

Calculate the perimeter.
Calculate the area of the shape.



- If Amira completed the sketch as the opposite figure. Calculate the perimeter of the new rectangle. Calculate the area of the new rectangle.

How can the previous problem help you find the area of the new rectangle ?

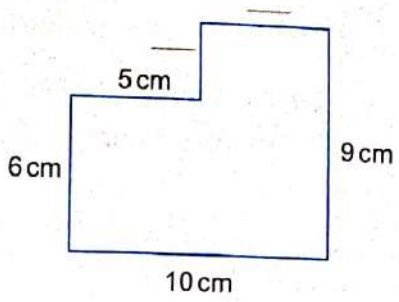


Notes for parents

- Ask your child to draw a complex figure and ask him/her to calculate the perimeter and the area of these drawn shapes.

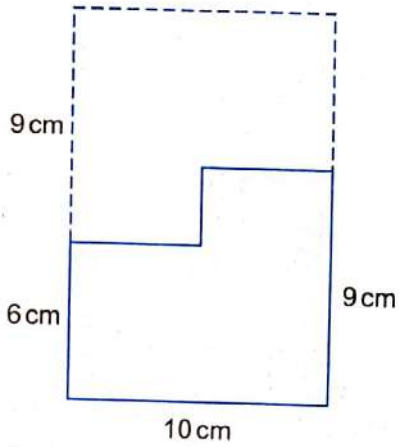
Youssef drew a sketch of his garden to look like using centimeters. Label the missing side lengths.

Calculate the perimeter and calculate the area of the shape.



- If Youssef completed the sketch as the opposite figure. Calculate the perimeter of the new rectangle. Calculate the area of the new rectangle.

How can the previous problem help you find the area of the new rectangle ?

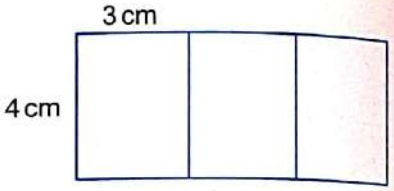


• Draw a complex figure and ask your child to calculate the perimeter and the area of it.

The rectangular field at the park has 36 meters. The length of the field is 10 meters.

Draw a sketch of the field and label all the sides.
What is the area of the field ?

Yassin draws 3 equal sized rectangles as shown to make a new larger rectangle.
The small rectangles are 4 cm by 3 cm.

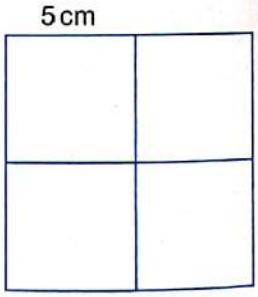


Calculate the perimeter of Yassin's new rectangle.
Calculate the area of the new rectangle.

Hint :

Add the areas or multiply the small area by the number of rectangles

Mona draws 4 equal sized squares as shown to make a new larger square. The small squares are 5 cm.

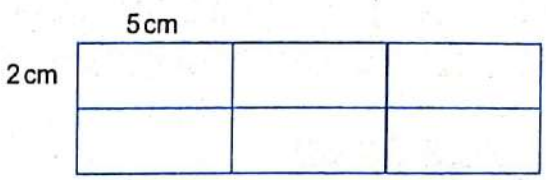


Calculate the perimeter of Mona's new square.
Calculate the area of the new square.

Notes for parents

- Help your child to find a strategy to find the perimeter and the area of the problems in this page.

Marwan draws 6 equal sized rectangles as shown to make as new larger rectangle.
The small rectangles are 5 cm by 2 cm.
Calculate the perimeter of Marwan's new rectangle.
Calculate the area of the new rectangle.



Challenge

- Sama needs to draw a rectangle with a perimeter of 15 units.
  Check if she could draw this rectangle.

The sides may contains fraction.

• Help your child to guess or estimate the side length of the rectangle which its perimeter is 15 units. "He/she may say 4 and 3 $\frac{1}{2}$ or 5 and 2 $\frac{1}{2}$"

Place a smiley face

Lesson

108 Applications on perimeter and area of rectangle and square

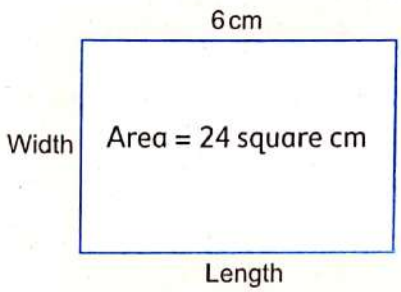
Learn

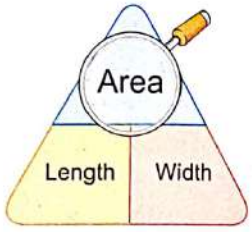
How to find the perimeter of a rectangle knowing its area and the length of one dimension.

- Area of a rectangle = Length × width
- Perimeter of a rectangle = 2 × (length + width)

Example

Find the perimeter of the following rectangle.





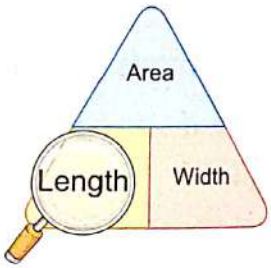
Area = length × width

Answer

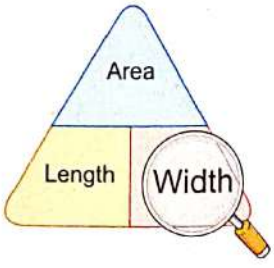
You need finding the rectangle width to find its perimeter.

Width = Area ÷ Length
= 24 ÷ 6 = 4 cm

The perimeter = 2 × (length + width)
= 2 × (6 + 4) = 2 × 10
= 20 cm



Length = Area ÷ width



Width = Area ÷ length

Notes for parents

Connect :

- Train your child to tell the time on an analog clock.

Check

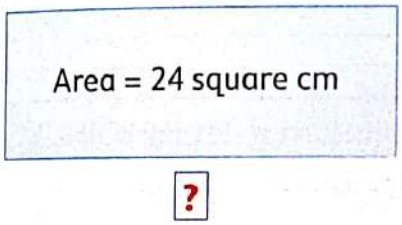
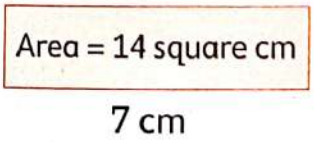
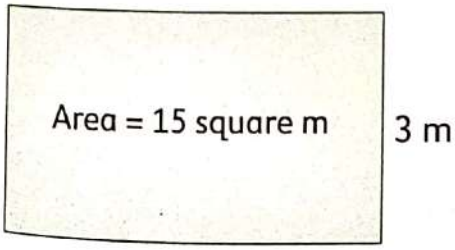
A rectangle of area 20 square cm, and its length is 4 cm.
What is its perimeter ? (Think : Width = Area ÷ Length)

_____

_____

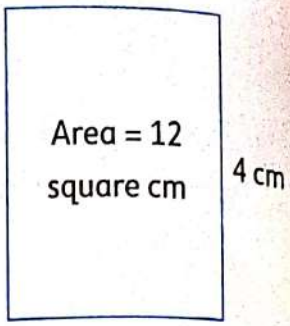
Practice

For each problem. Find the perimeter.

Figure	Answer
	
	
	

• Ask your child to use equations to help him/her to solve problems.

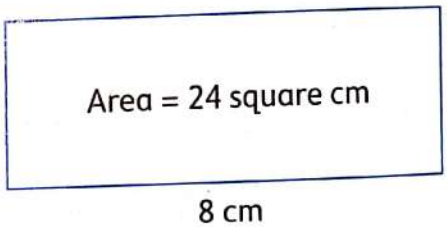
Mazen drew the opposite rectangle.
Calculate the perimeter of Mazen's rectangle.



Sketch another rectangle that has the same area and calculate the perimeter of the new rectangle.

Draw

Perry drew the opposite rectangle.
Calculate the perimeter of Perry's rectangle.



Sketch another rectangle that has the same area and calculate the perimeter of the new rectangle.

Draw

Notes for parents

- Ask you child to think: Why did the perimeter change although the area still the same ?
  He/she should answer: The perimeter changes because there are multiple factor pairs for example :
  $12 = 4 \times 3$, $12 = 2 \times 6$ or $12 = 1 \times 12$

Ali sketch a rectangular painting with an area of 28 square cm.
The width of his painting is 4 cm.

Sketch Ali's painting. **Find the length of his painting, then calculate the total perimeter.**

Ali's sketch

Jaida sketch a rectangular painting with an area of 56 square cm.
The length of her painting is 8 cm.

Sketch Jaida's painting. **Find the width of the painting, then calculate the total perimeter.**

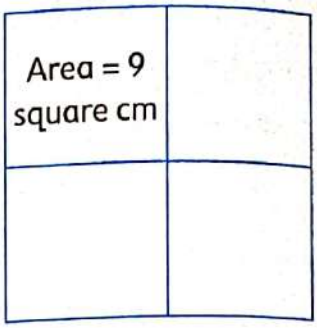
Jaida's sketch

• Help your child to solve the first problem in this page and ask him/her to solve the second problem alone.

Jana drew four identical squares. The area of the square is 9 square cm and the length of one side is 3 cm.

Calculate the perimeter of the shape she drew.
Calculate the total area of the shape.

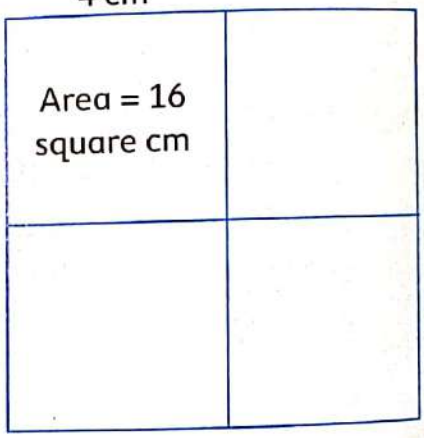
3 cm



Yassin drew four identical squares. The area of the square is 16 square cm and the length of one side is 4 cm.

Calculate the perimeter of the shape he drew.
Calculate the total area of the shape.

4 cm



Notes for parents

- Ask your child to multiply the number of squares by the area of one square and compare between them if finding the total area by adding the sum of areas of all squares.

Challenge

Read each riddle. Draw at least two shapes that fit the riddle and then record the perimeter.

Riddle one :

I can be a rectangle or a square. I have an area of 16 square units. My length is greater than 3 units. **What do I look like ?**

Shape one	Shape two
Total perimeter = _____	Total perimeter = _____

Riddle two :

I am a rectangle. I have an area of 12 square units. My width is less than 4 units long. **What do I look like ?**

Shape one	Shape two
Total perimeter = _____	Total perimeter = _____

Riddle three :

I can be a rectangle or square. I have an area of 36 square units. My width is less than 8 units. **What do I look like ?**

Shape one	Shape two
Total perimeter = _____	Total perimeter = _____

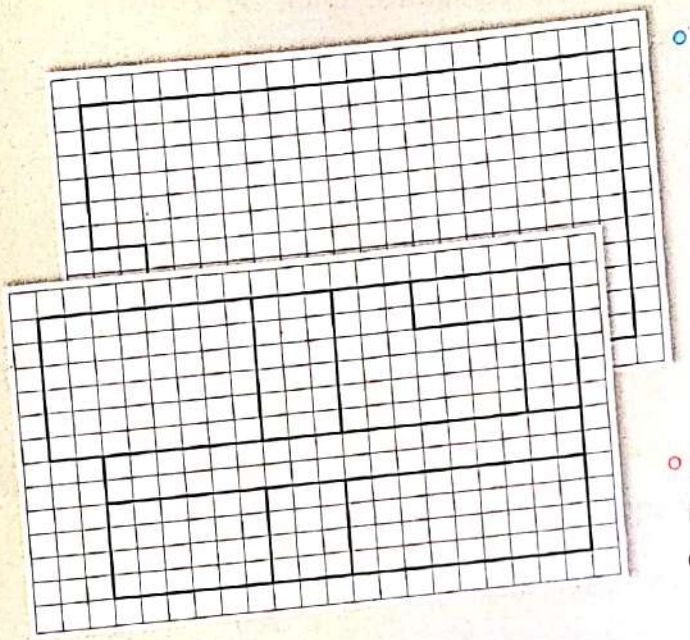
• Help your child to solve these three riddle and let him/her guess the side lengths for the two shapes.

Place a smiley face

Lessons 109 & 110

Project on perimeter and area

Project DREAM HOUSE

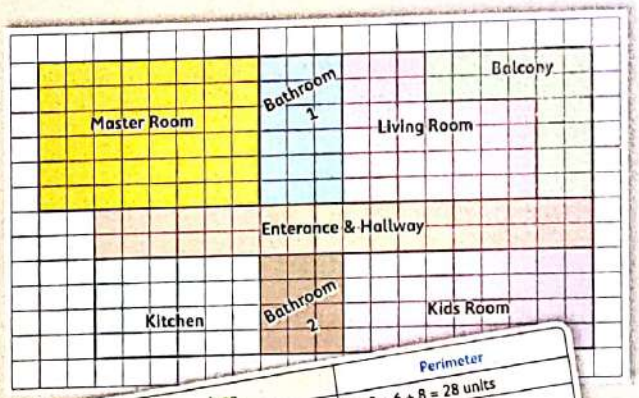


- Outline your dream house by drawing the outside walls. Your dream house should be a compound figure with all right corners.

Hint

Think about the needed rooms in your house and how big or small should be each room.

- Partition your dream house into rooms. Each room must be a rectangle or a square.



- Label and color each room.

Place	Area	Perimeter
Master Room	$6 \times 8 = 48$ square units	$6 + 8 + 6 + 8 = 28$ units
Bathroom 1	$6 \times 3 = 18$ square units	$6 + 3 + 6 + 3 = 18$ units
Living Room	$(6 \times 3) + (4 \times 4) = (18 + 16) =$ 34 square units	$6 + 3 + 2 + 4 + 4 + 7 = 26$ units
Balcony	$(2 \times 6) + (4 \times 2) = 12 + 8 =$ 20 square units	$2 + 6 + 6 + 2 + 4 + 4 = 24$ units
Enterence & hallway	$2 \times 18 = (2 \times 10) + (2 \times 8)$ $= 20 + 16 = 36$ square units	$2 + 18 + 2 + 18 = 40$ units
Kitchen	$4 \times 6 = 24$ square units	$4 + 6 + 4 + 6 = 20$ units
Bathroom 2	$4 \times 3 = 12$ square units	$4 + 3 + 4 + 3 = 14$ units
Kids Room	$4 \times 9 = 36$ square units	$4 + 9 + 4 + 9 = 26$ units
Total	$48 + 18 + 34 + 20 + 36 + 24 + 12$ $+ 36 = 228$ square units	$6 + 8 + 3 + 3 + 6 + 6 + 2 + 4 + 9$ $+ 3 + 6 + 4 + 2 = 62$ units

- Find and record the perimeter area of each room.
- Add the area of all of your rooms to find the total area of your dream house.

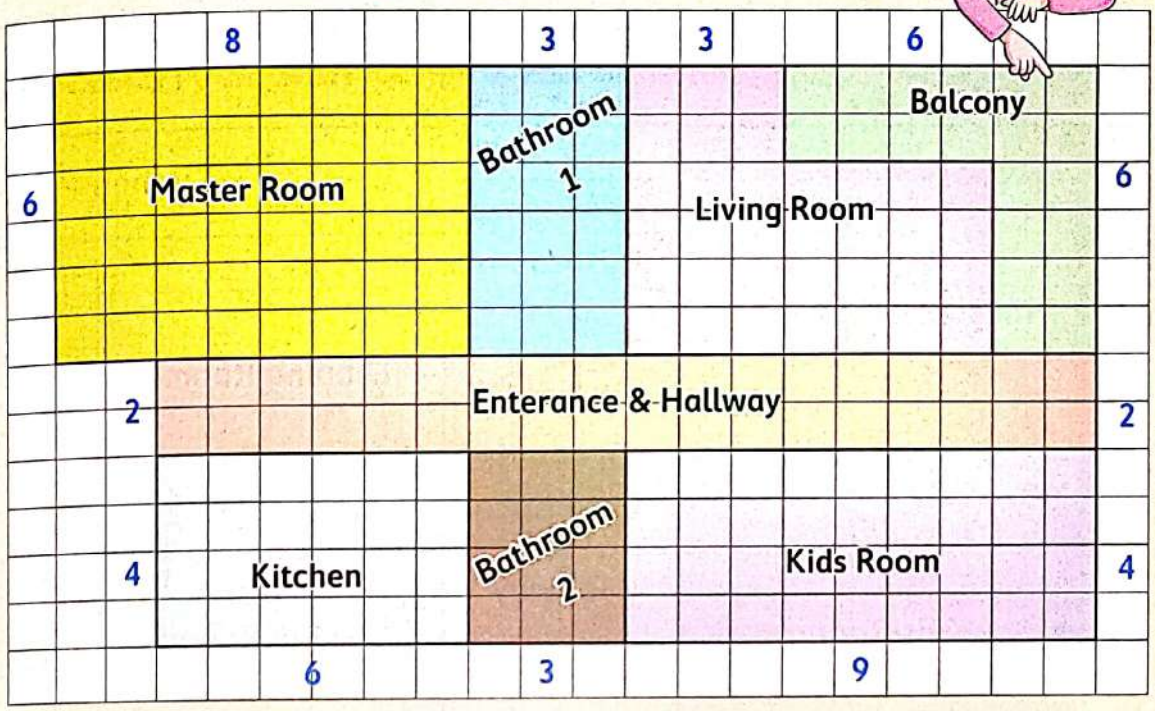
Notes for parents

Connect :

- Train your child to calculate the area of a complex shape drawn on a grid.

Example Sylvia drew her dream house design.

Sylvia's dream House



Sylvia recorded the places she draw and calculate the area and the perimeter.

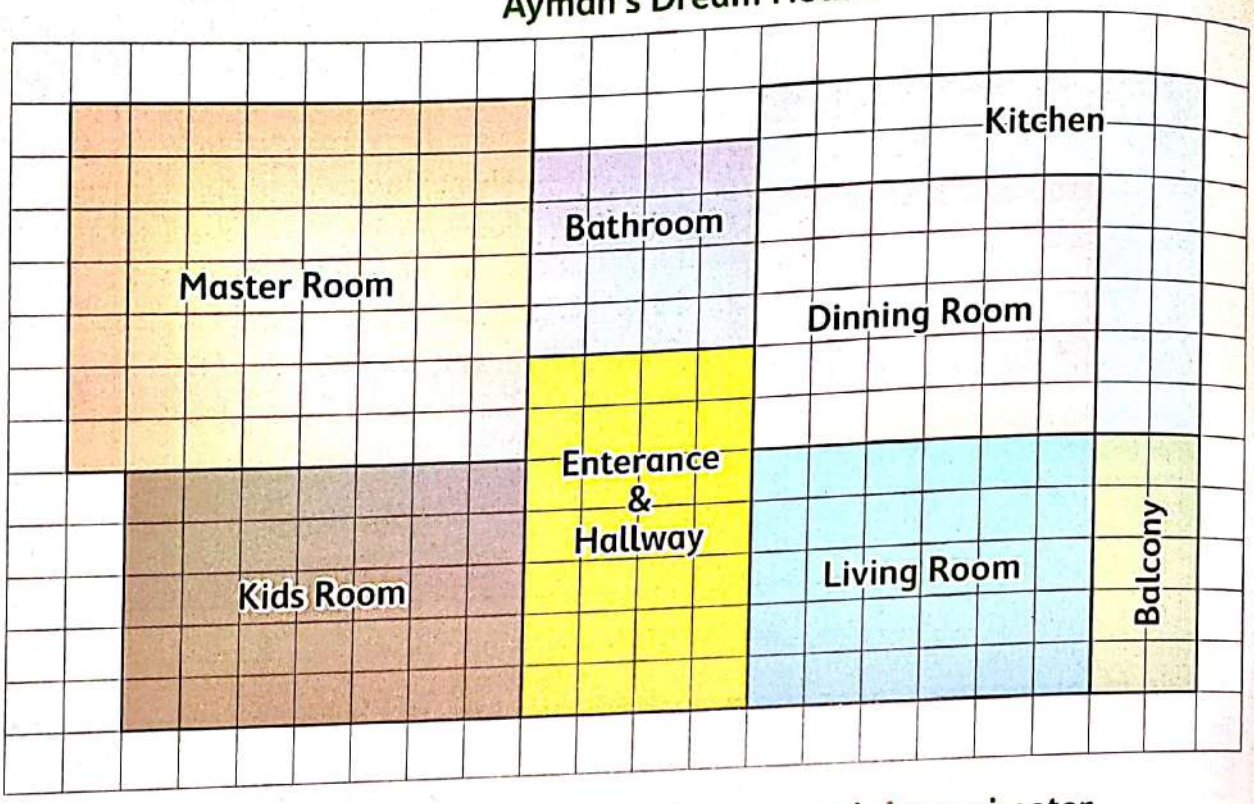
Place	Area	Perimeter
Master Room	$6 \times 8 = 48$ square units	$6 + 8 + 6 + 8 = 28$ units
Bathroom 1	$6 \times 3 = 18$ square units	$6 + 3 + 6 + 3 = 18$ units
Living Room	$(6 \times 3) + (4 \times 4) = 18 + 16 =$ 34 square units	$6 + 3 + 2 + 4 + 4 + 7 = 26$ units
Balcony	$(2 \times 6) + (4 \times 2) = 12 + 8 =$ 20 square units	$2 + 6 + 6 + 2 + 4 + 4 = 24$ units
Enterence & Hallway	$2 \times 18 = (2 \times 10) + (2 \times 8)$ $= 20 + 16 = 36$ square units	$2 + 18 + 2 + 18 = 40$ units
Kitchen	$4 \times 6 = 24$ square units	$4 + 6 + 4 + 6 = 20$ units
Bathroom 2	$4 \times 3 = 12$ square units	$4 + 3 + 4 + 3 = 14$ units
Kids Room	$4 \times 9 = 36$ square units	$4 + 9 + 4 + 9 = 26$ units
Total	$48 + 18 + 34 + 20 + 36 + 24 + 12$ $+ 36 = 228$ square units	$6 + 8 + 3 + 3 + 6 + 6 + 2 + 4 + 9$ $+ 3 + 6 + 4 + 2 = 62$ units

• Let your child check the answers of the areas and perimeters in Sylvia's dream house.

Practice

Ayman drew his dream house design. Label the figure with number of units.

Ayman's Dream House



Record the places he drew and calculate the area and the perimeter.

Place	Area	Perimeter
Total		

Notes for parents

- Ask your child to find the areas and perimeter of each room and help him/her to find the total area and perimeter of dream house.

..... 'S DREAM HOUSE

Draw your dream house on the grid below.
Label each room with its name and dimensions.

Record the places of you drew and calculate the area and the perimeter.

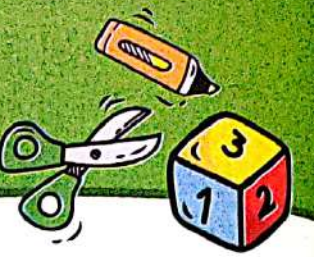
Place	Area	Perimeter

• Help your child to design his/her dream house. Let him/her imagine his/her own dream house.

Place a smiley face

Activity

Chapter 5



Design your Dream Zoo

..... 's Dream Zoo

- Draw the pen of each animal, calculate the perimeter and the area of the pen and then calculate the total area and the total perimeter.

Animal	Area	Perimeter
Giraffe		
Lion		
Elephant		
Tiger		
Monkey		
Rhino		
Zebra		
Total Zoo		

Extra Practice

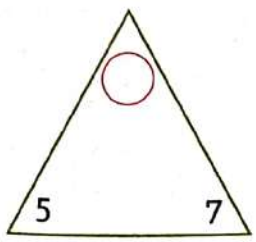
Chapter 5

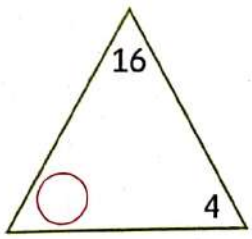
1 Solve the following equations.

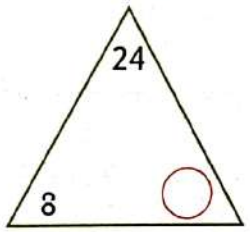
2 x 9 = ____	10 x 4 = ____	12 x 4 = ____
5 x 5 = ____	7 x 7 = ____	4 x 1 = ____
3 x 4 = ____	9 x 11 = ____	8 x 7 = ____
12 x 1 = ____	6 x 0 = ____	5 x 11 = ____
6 x 8 = ____	9 x 9 = ____	3 x 6 = ____

2 Record the missing number in the empty box.

7 x ____ = 14	____ x 3 = 15	____ x 9 = 27
____ ÷ 5 = 6	____ ÷ 3 = 2	36 ÷ ____ = 6
____ x 4 = 28	3 x ____ = 9	12 ÷ ____ = 2
60 ÷ ____ = 10	____ x 7 = 0	____ ÷ 4 = 1







• In this practice your child will review on all what he/she had learned in chapter 5.

3 **Solve the following story problems.**

- Hani saves 10 pounds everyday. How much money does Hani save in a week ?

_____

- Amany has 30 crayons. She put the crayons into boxes. Each box can hold 6 crayons. How many boxes will she need ?

_____

- Amgad distributed 27 marbles equally among his 3 children. How many marbles did each child get ?

_____

- Rana has 5 bags. Each bag contains 8 balls. How many balls are there in all bags ?

_____

4 **Write a story problem that could be represented by the equation shown, then solve it.**

8 x 4 = ____

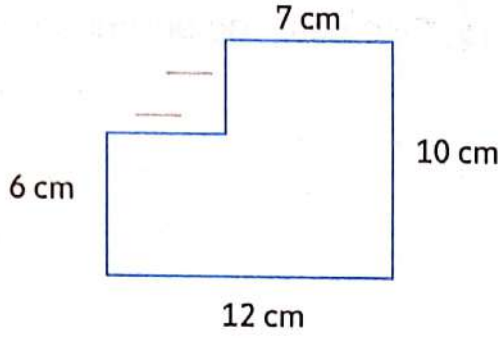
30 ÷ 6 = ____

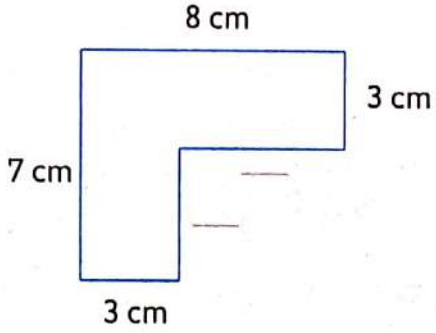
9 x 6 = ____

42 ÷ 7 = ____

5 Draw a sketch of a rectangle of length 5 cm and width 3 cm and another square that has side length of 3 cm. Calculate the perimeter and the area of each shape, then lay the two shapes side by side and calculate the perimeter and total area of the new shape.

6 Calculate the perimeter and the area of the following figures.





Chapter 6

Outcomes

At the end of chapter six, your child will be able to:

Lesson 111

- Color shapes to generate unconventional halves.

Lesson 112

- Apply understanding of area and fractions to solve story problems.

Lesson 113

- Order fractions on a number line.
- Generate questions or problems to review Primary 3 math.

Lesson 114

- Solve place value problems.
- Generate questions or problems to review Primary 3 math.

Lesson 115

- Solve elapsed-time problems.
- Generate questions or problems to review Primary 3 math.

Lesson 116

- Measure objects to the nearest half centimeter.
- Use measurement data to make line plots.
- Analyze line plots to answer questions about the data.
- Generate questions or problems to review Primary 3 math.

Lesson 117

- Collect and record data in a table.
- Use collected data to make a line plot.
- Use collected data to make a bar graph.
- Analyze graphs to answer questions about the data.
- Compare the effectiveness of line plots and bar graphs to display data.
- Generate questions or problems to review Primary 3 math.

Lesson 118

- Draw quadrilaterals and non-quadrilaterals on grid paper.
- Find the area and perimeter of each shape on grid paper.
- Generate questions or problems to review Primary 3 math.

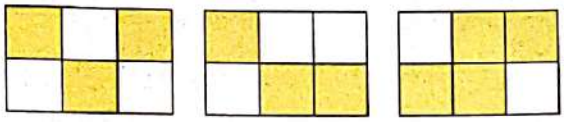
Lessons 119 & 120

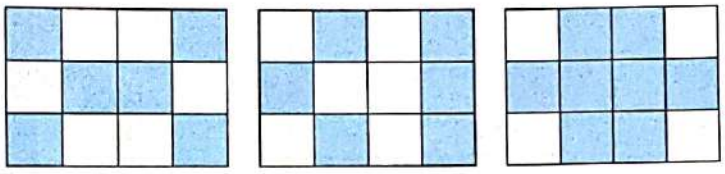
- Review mathematics skills and concepts from Primary 3.
- Reflect on growth and development as mathematicians in Primary 3.

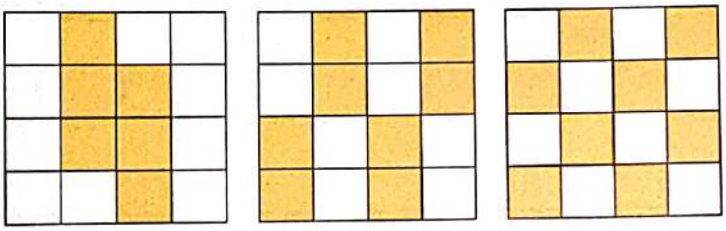
Key vocabulary

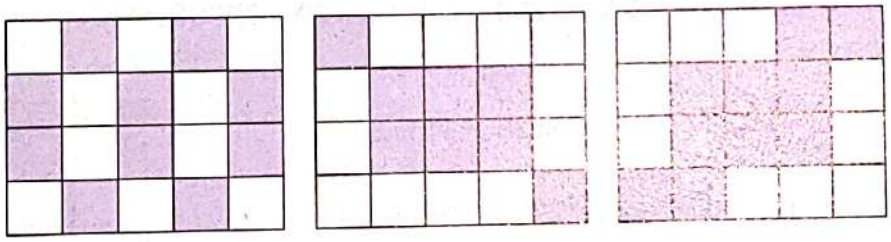
- Unconventional
- Denominator Place
- Data
- Equivalence
- value
- Key
- Number line
- Elapsed
- Line plot
- Numerator
- Centimeters
- Bar graph

Find the shapes that do not represent a half in each row. Circle it.

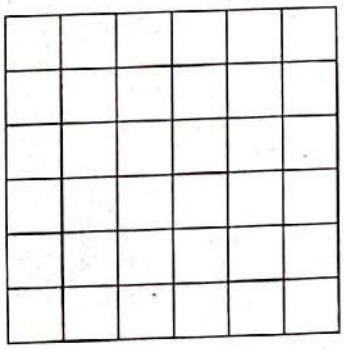


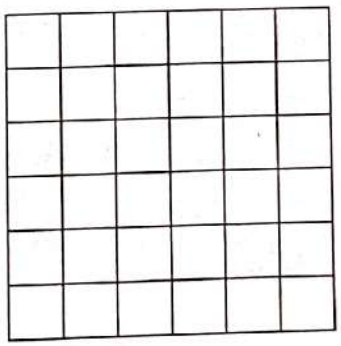


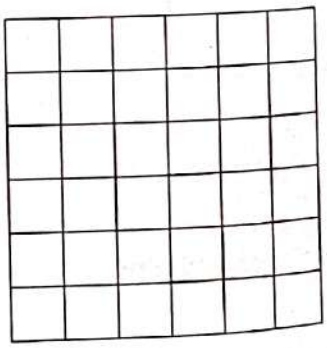




Shade exactly one-half of each square below. Make sure your squares look different from each other.







Place a smiley face

Notes for parents

- Ask your child to draw a geometric shape and show unconventional half on it.

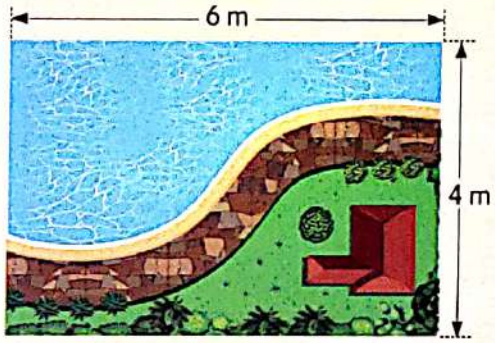
Lesson

112 Different ways to find half of rectangle's area

Learn

Andy's garden is 6 meters long and 4 meters wide, if Andy needs to put a pool in the half of his garden.

What is the area of the pool ?



The area of the pool is half the area of the garden.

First way

Find the area of the garden, then divide it by 2 to find the half of it.

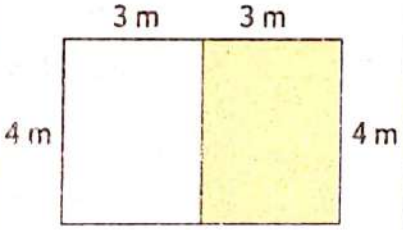
Area of garden
= 6 × 4
= 24 square meters

Area of half of garden
= 24 ÷ 2
= 12 square meters

Second way

Divide the length into two small rectangles and find the area of one rectangle of them.

6 ÷ 2 = 3

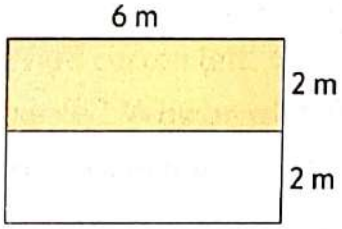


Area of half of garden
= 3 × 4 = 12 square meters

Third way

Divide the width into two small rectangles and find the area of one rectangle of them.

4 ÷ 2 = 2

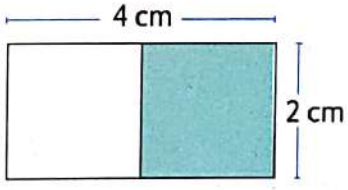


Area of half of garden
= 6 × 2 = 12 square meters

So, the area of the pool is 12 square meters.

Check

Calculate the half of area of the opposite rectangle.

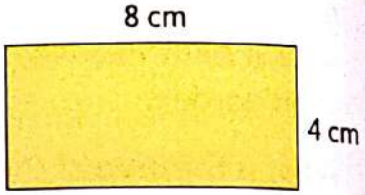


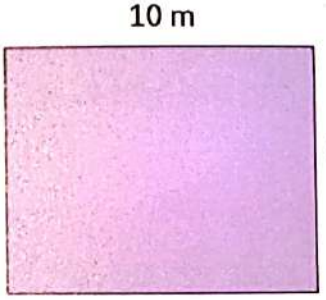
Connect :

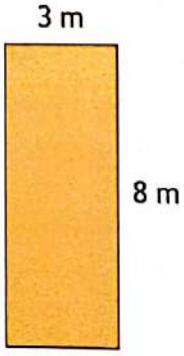
• Remind your child how he/she add and subtract 2-digt and 3-digit numbers. Let him/her write about the strategy he/she used.

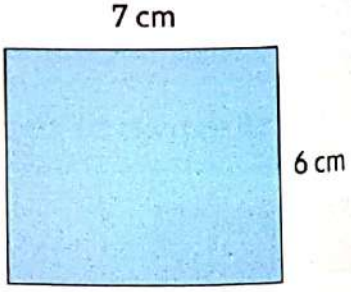
Practice

Find the half of area of each of the following rectangles. Choose the way you prefered.









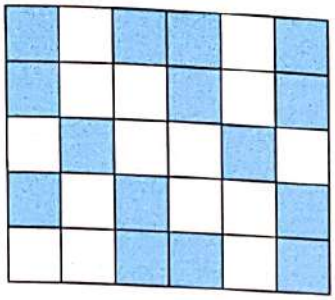
Notes for parents

- Let your child choose his/her prefered way to find the half of area in this page.

Amira shades the rectangle as shown below and says one-half of the big rectangle is shaded.

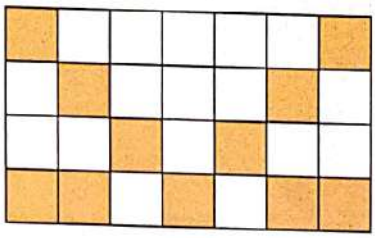
Do you agree ? Why or why not ?

Explain your thinking



Tamer shades the rectangles as shown below and says one-half of the big rectangle is shaded.

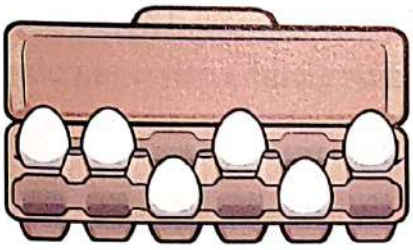
Do you agree ? Why or why not ?
Explain your thinking



Mary and her sister are orgnizing eggs. Mary says there is a half carton left.

Do you agree ? Why or why not ?

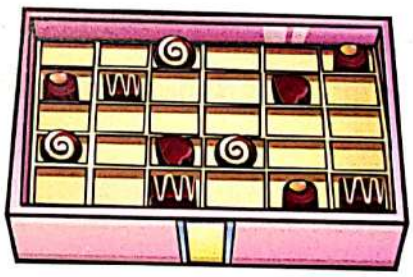
Explain your thinking.



Yassin and his brother are orgnizing chocolates. Yassin says there is a half carton left.

Do you agree ? Why or why not ?

Explain your thinking.



• Help your child explain his/her thinking and calculate the half of area if needed.

Rami bought a piece of garden in the shape of rectangle. The garden's dimensions is 8 meters by 10 meters. He wants to plant apple trees in the $\frac{1}{2}$ of the garden. **What is the area of $\frac{1}{2}$ of his garden ?**

Mai creates a fenced garden in a field. The garden is a rectangle measuring 12 meters by 8 meters. She wants to grow vegetables in half of the garden.

What is the area of half of her garden ?

Hani needs to paint a wall equally with two different colors. The wall is 6 meters by 3 meters. **What is the area should he paint with one color ?**

Notes for parents

- Let your child use drawings or symbols to help finding half of are in problems in this page.

Sara is wrapping presents. She needs 18 square units to wrap one present.
How many presents can she wrap if her paper is 5 units long by 3 units wide ?

Sylvia is wrapping presents. She needs 32 square units to wrap one present.
How many presents can she wrap if her paper is 8 units long by 6 units wide ?

Marwan is wrapping presents. He needs 15 square units to wrap one present.
How many presents can he wrap if his paper is 6 units long by 5 units wide ?

Place a smiley face

• Ask your child to find the area of the wrapping paper, compare the two areas and then decide if the wrapping paper is enough or not.

Lesson

113 Ordering fractions on the number line

Learn

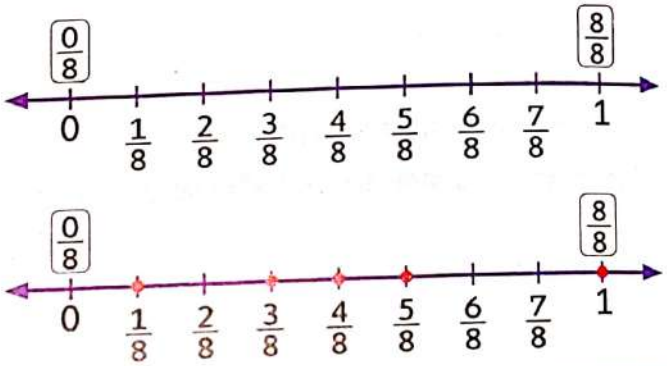
First

How can you place proper fractions with common denominators on the number line?

For example

You can place : $\frac{3}{8}$, $\frac{1}{8}$, $\frac{5}{8}$, $\frac{4}{8}$, $\frac{8}{8}$ on the number line as follows.

- Divide the number line in 8 equal parts as the number in denominator
- Place the given fractions on the number line



Second

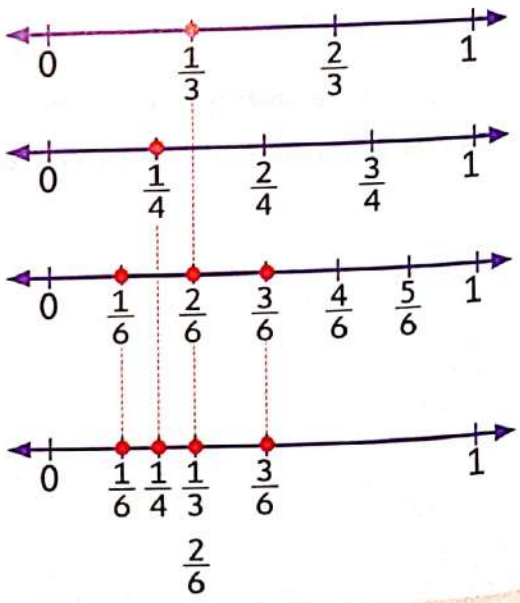
How can you place proper fractions with different denominators on the number line?

For example

You can place : $\frac{3}{6}$, $\frac{2}{6}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{6}$ on the number line as follow.

One way

- Draw a number line divided into thirds, one divided into fourths and another one divided into sixths
- Place $\frac{1}{3}$ on the top number line, $\frac{1}{4}$ on the second number line, $\frac{3}{6}$, $\frac{2}{6}$, $\frac{1}{6}$ on the third number line.
- Now, draw a new number line and place each fraction with alignment its place on the previous number line.



Notes for parents

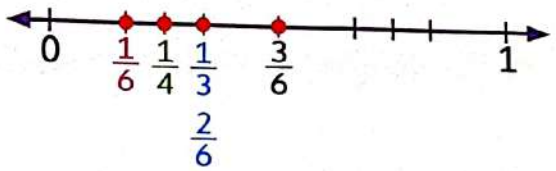
Connect :

- Remind your child multiplication and division facts related with 6. Give him/her problems as :

$2 \times 6 =$ ____ , $6 \times 6 =$ ____ , $42 \div 6 =$ ____ , $60 \div 6 =$ ____

Another way

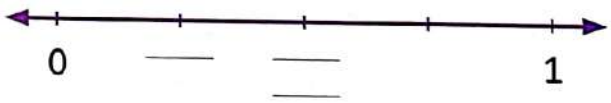
- Draw a number line and divide it into thirds and place $\frac{1}{3}$ on it, divide it into fourths and place $\frac{1}{4}$ on it, and then divide it into sixths and place $\frac{3}{6}$, $\frac{2}{6}$, $\frac{1}{6}$ on it.



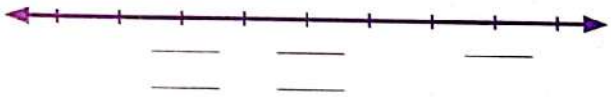
Check

Order the following fraction on the number line.

- $\frac{1}{4}$, $\frac{1}{2}$, $\frac{2}{4}$



- $\frac{1}{4}$, $\frac{4}{8}$, $\frac{2}{8}$, $\frac{1}{2}$, $\frac{7}{8}$



Practice

Put the following fractions on the number line.

- $\frac{1}{3}$, $\frac{1}{6}$, $\frac{2}{6}$, $\frac{3}{6}$

- $\frac{1}{5}$, $\frac{3}{10}$, $\frac{5}{10}$, $\frac{4}{4}$

- $\frac{1}{3}$, $\frac{3}{6}$, $\frac{2}{3}$, $\frac{0}{5}$

- $\frac{2}{8}$, $\frac{7}{8}$, $\frac{1}{4}$, $\frac{3}{6}$

- $\frac{6}{6}$, $\frac{3}{5}$, $\frac{1}{10}$, $\frac{1}{2}$

- $\frac{1}{6}$, $\frac{2}{6}$, $\frac{4}{4}$, $\frac{4}{6}$

• Help your child to divide each number line into equal parts.

Place the following fractions on the number line.

- $\frac{3}{4}$, $\frac{2}{3}$, $\frac{4}{4}$, $\frac{4}{6}$

- $\frac{1}{3}$, $\frac{2}{8}$, $\frac{6}{8}$, $\frac{12}{12}$

- $\frac{1}{4}$, $\frac{1}{12}$, $\frac{5}{10}$, $\frac{3}{12}$

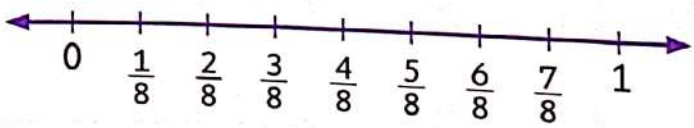
- $\frac{6}{12}$, $\frac{2}{8}$, $\frac{1}{4}$, $\frac{10}{12}$

- $\frac{5}{8}$, $\frac{1}{4}$, $\frac{4}{8}$, $\frac{1}{3}$

- $\frac{7}{7}$, $\frac{2}{3}$, $\frac{5}{6}$, $\frac{1}{2}$

Challenge

- Look at the number line below. Then find at least three other equivalent fractions that could be placed on the number line and record them (Do not list any more equivalent fractions for $\frac{4}{8}$).



Notes for parents

- Help your child to find the required equivalent fractions in the challenge.

Place a smiley face

Lesson

114 Place value - Comparing and ordering numbers

Remember

Writing and reading numbers up to 6 digits.

o Place value chart :

531,629

Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
5	3	1	6	2	9

or

5 hundred thousands	3 ten thousands	1 thousand	6 hundreds	2 tens	9 ones
500,000	30,000	1,000	600	20	9

Standard form : 5 3 1, 6 2 9

Expanded form : 500,000 + 30,000 + 1,000 + 600 + 20 + 9

Word form : Five hundred thirty-one thousand, six hundred twenty-nine

Put a comma between the thousands place and the hundreds place.

Practice

Write in standard form.

10,000 + 4,000 + 500 + 30 + 6 = _____

800,000 + 30,000 + 2,000 + 400 + 90 + 7 = _____

500 + 500,000 + 40,000 + 2 + 10 = _____

1 + 4 + 60 + 7,000 + 200,000 = _____

4 thousands + 5 hundreds + 26 ones = _____

75 tens + 30 ten thousands + 4 ones = _____

36 thousands + 16 ones = _____

92 hundreds + 15 tens + 2 ten thousands = _____

Connect :

• Roll two dices. Ask your child to add the numbers together and multiply the total by 7.

Complete the table.

Standard form	Word form
_____	Nine hundred eighty-two thousand, three hundred twelve
_____	forty-six thousand, two hundred fifty-six
_____	Three hundred one thousand, three hundred one
431,295	_____
70,683	_____

Write in expanded form.

452,173 = _____ + _____ + _____ + _____ + _____ + _____

603,426 = _____ + _____ + _____ + _____ + _____

76,289 = _____ + _____ + _____ + _____ + _____

1,765 = _____ + _____ + _____ + _____

20,196 = _____ + _____ + _____ + _____

7,053 = _____ + _____ + _____

Write the value and place value of the colored digit.

	place value	value
42,517		
580,609		
31,984		
63,810		
85,002		

	place value	value
104,728		
600,006		
5,128		
710,014		
2,739		

Notes for parents

- Ask your child to pick any number in this page and ask your child to represent it in different forms.

Remember

Creating greatest and least number from given digits

How to create the greatest and the least number from the digits 4 , 5 , 9 , 0 , 1.

Do not put the 0 digit in the highest place value.

To create the greatest number from given digits, arrange the digits from greatest to least.

The order is : 9 5 4 1 0

So, the greatest number is : **9,5410**

To create the least number from given digits, arrange the digits from least to greatest.

The order is : 1 0 4 5 9

So, the least number is : **1,0459**

Practice

Rearrange the digits to get the greatest number and the least number from the given digits.

7 2 1 5

greatest : _____ least : _____

3 8 4 2

greatest : _____ least : _____

3 6 9 7

greatest : _____ least : _____

8 9 0 4

greatest : _____ least : _____

3 4 6 2 9

greatest : _____ least : _____

6 2 2 1 3

greatest : _____ least : _____

6 4 0 8 1

greatest : _____ least : _____

6 9 7 0 2 4

greatest : _____ least : _____

7 3 4 8 1 5

greatest : _____ least : _____

3 0 2 2 4 9

greatest : _____ least : _____

• Let your child read numbers in this page he/she formed.

Remember Comparing numbers

Compare 52,349 and 52,617.

Step 1

Begin at the left. Compare.

52,349
52,617

Both numbers have 5 ten thousands, 2 thousands.

Step 2

Find the first place where the digits are different. Compare.

52,349
52,617

3 hundreds is less than 6 hundreds.

So, 52,349 < 52,617
or 52,617 > 52,349

When comparing numbers, the number which has more number of digits is the greater.
5843 > 798

Practice

Compare, write > , < or =.

3,197	◯	3,240	4 thousands	◯	400 hundreds
77,204	◯	77,201	1 hundred thousand	◯	10,000 ones
501,118	◯	801,115	30 tens	◯	30 thousands
15,013	◯	15,927	18 ten thousands	◯	180 hundreds
81,236	◯	79,986	550 thousands	◯	5,500 tens
73,069	◯	9,573	4,321 ones	◯	4,321

99,999	◯	one hundred thousand
213,504	◯	200,000 + 10,000 + 3,000 + 500 + 5
628,709	◯	six hundred twenty-eight thousand, seven hundred eight
523,768	◯	500,000 + 23,000 + 760 + 18

Notes for parents

- Tell your child two numbers and ask him/her to compare between them.

الممسوحة ضوئيا بـ CamScanner

Write the numbers in order from least to greatest.

61,734 | 6,950 | 61,850 | 116,658

The order is : _____ , _____ , _____ , _____

561,248 | 91,234 | 74,005 | 9,706

The order is : _____ , _____ , _____ , _____

48,671 | 370,173 | 48,672 | 7,290

The order is : _____ , _____ , _____ , _____

34,170 | 599 | 35,005 | 9,730 | 705,662

The order is : _____ , _____ , _____ , _____ , _____

50,010 | 5,001 | 50,101 | 501 | 501,011

The order is : _____ , _____ , _____ , _____ , _____

Write the numbers in order from greatest to least.

22,012 | 8,234 | 14,235 | 109,010

The order is : _____ , _____ , _____ , _____

37,309 | 8,562 | 37,903 | 4,298

The order is : _____ , _____ , _____ , _____

818,230 | 5,808 | 36,070 | 818,231

The order is : _____ , _____ , _____ , _____

100,701 | 99,358 | 100,702 | 8,359 | 98,781

The order is : _____ , _____ , _____ , _____ , _____

80,499 | 801 | 8,941 | 801,014 | 80,949

The order is : _____ , _____ , _____ , _____ , _____

• Ask your child to tell you two numbers one greater and one less than (28,512).

Place a smiley face

الممسوحة ضوئيا بـ CamScanner

Lesson

115 Elapsed time

Learn

You can use a time line to find elapsed time.

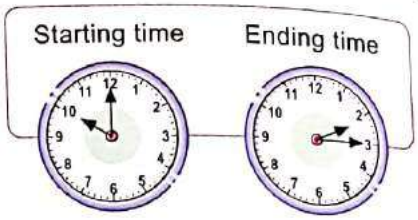
Vocabulary

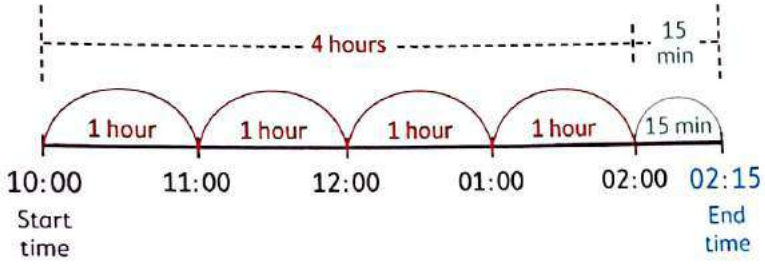
Elapsed time is the time that passes from the start to the end of an activity.

Example 1

Sara arrived at the mall at 10:00 A.M.
She leaved the mall at 02:15 P.M.

How long did she spend at the mall ?



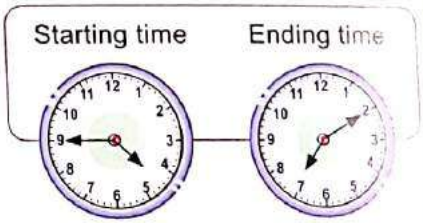


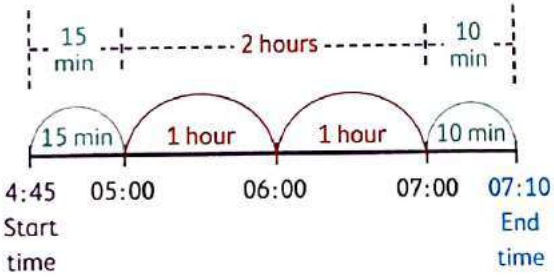
So, Sara spent 4 hours and 15 minutes.

Example 2

Ziad arrived at the library at 04:45 P.M.
He leaved the library at 07:10 P.M.

How long did he stay at the library ?





So, Ziad stayed 2 hours and 25 minutes.

Notes for parents

- Help your child to find the elapsed time using a time line.

الممسوحة ضوئيا بـ CamScanner

Example 3 Find the ending time.

Jana and her mother get on the bus at 02:30 P.M. Their ride home from the garden lasts 35 minutes. **What time do they get home ?**
Count forward on a clock.

02:30 P.M. and 35 minutes more
= 03:05 P.M.

Math tip

When counting forward on a clock, increase one hour for each cross on 12.

So, they get home at 03:05 P.M.

Example 4 Find the starting time.

Nora and her son hiked for 45 minutes. They stopped for a snack at 10:10 A.M. **When did they start hiking ?**
Count backward on a clock.

10:10 A.M. and 45 minutes less
= 09 : 25 A.M.

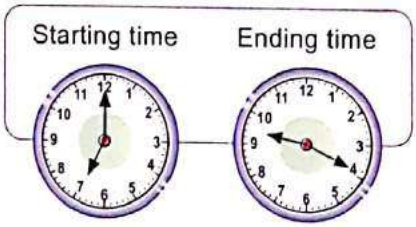
Math tip

When counting backward on a clock, decrease one hour for each cross on 12.

So, they started hiking at 09:25 A.M.

Check

A television cartoon movie begins at 07:00 P.M. and ends at 09:20 P.M. Find the elapsed time.



* Remind your child that 1 day = 24 hours, 1 hour = 60 minutes, half of an hour = 30 minutes.

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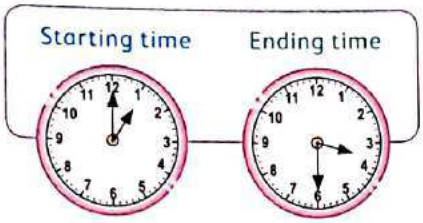
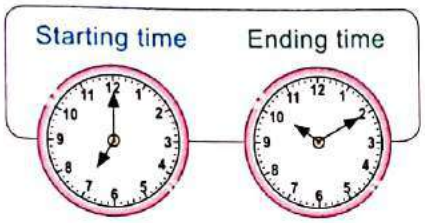
Practice

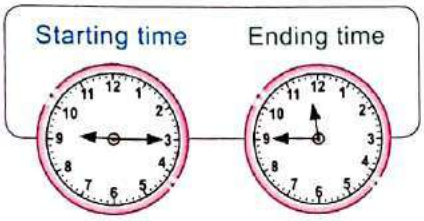
Use each analog clock to find the elapsed time.



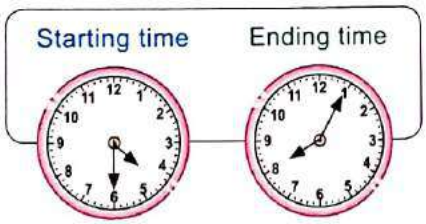
Elapsed time



Elapsed time



Elapsed time



Elapsed time

Complete the table.

Start time	End time	Elapsed time
03:00 P.M.	06:25 P.M.	
10:05 A.M.	11:15 A.M.	
05:30 P.M.	09:45 P.M.	
08:20 A.M.	02:35 P.M.	
03:40 P.M.	07:30 P.M.	

Notes for parents

- Help your child to find the elapsed time, ask him to find the elapsed time "from 09:00 P.M. to 06:00 A.M." as his/her sleeping time.

الممسوحة ضوئيا بـ CamScanner

Tamer went to the museum with his family. They arrived at 09:00 A.M. and they left the museum to go back home at 02:30 P.M.

How long were they at the museum ?

Samir started his karate practice at 03:10 P.M. He finished the practice at 05:40 P.M.

What is the elapsed time ?

Heba's family took a road trip. They left at 07:30 A.M. and drove until 01:15 P.M., when they stopped for lunch.

How many hours were they on the road ?

*Let your child use clock model drawings or time line to find the elapsed time.

الممسوحة ضوئيا بـ CamScanner

Magda made a cake. She put the cake in the oven at 07:10 A.M.
It takes 35 minutes to well done.

What time will she open the oven ?

The football game started at 06:00 P.M. The first half takes 45 minutes to finish.

What time will the first half end ?

After 15 minutes from the end of the first half, the second half begins
If the second half takes the same time "45 min".

What time will the match end ?

Amany spent 3 hours at ballet practice. She finished at 08:30 P.M.

What time did she start ?

The television program lasts for 30 minutes. If it finished at 05:25 P.M.

What time did it start ?

Notes for parents

- Remind your child that counting backward or counting forward is useful way to find the starting or ending time.

الممسوحة ضوئيا بـ CamScanner

Answer the following questions. The first one is done for you.

- Adham woke up at 06:00 A.M. He has to leave at 07:00 A.M for school. It takes him 20 minutes to eat breakfast, 5 minutes to brush his teeth and comb his hair, and 10 minutes to pack his bag. If he wanted to watch a cartoon for 30-minutes. **Would he have enough time before he leaves home for school ?**

Answer

- From 6:00 A.M. to 7:00 A.M. = 60 minutes
- 20 (breakfast) + 5 (teeth and hair) + 10 (pack) = 35 minutes

1 hour = 60 minutes
2 hours = 120 minutes

- The rest time till the time of going school = 60 – 35 = 25 minutes
  He would not watch a cartoon for 30-minutes
  He could watch for 25 minutes or less.

- Sandy did her homework. She took 30 minutes for math, 45 minutes for Arabic and 35 minutes for English.
  How long did she take to finish her homework ?
  If Sandy started at 4:00 P.M., would she have enough time before her karate class which starts at 6:00 P.M. ?

- Faten made a cake for her sister's birthday. It took 25 minutes to mix it, 45 minutes to bake, 30 minutes to forst it, and 15 minutes to decorate it.
  How long did Faten take to complete the cake ?
  If Faten started at 5:00 P.M., would she have enough time before the birthday party which starts at 6:30 P.M. ?

*Let your child know that 2 hours means 120 minutes, 3 hours means 180 minutes which it helpful when calculating time.

الممسوحة ضوئيا بـ CamScanner

Challenge

- Mark spends 3 hours doing chores and eating meals. He wants to visit friends for 4 hours, shop for 2 hours, read for 3 hours, and sleep for 10 hours. **Will Mark be able to do everything in one day ? Explain.**

- Wael had football practice after school. He left school at 3:30 P.M. He walked for 15 minutes to the field, practiced for an hour and a half, and then walked 20 minutes home. **What time did he get home ?**

- Ahmed comes home from school and starts his homework. It takes him 22 minutes to do his math, 20 minutes to read, and he has a science experiment that takes 18 minutes. Mai has the same homework. She takes 15 minutes to do her math, reads for 20 minutes, and then the science experiment only takes her 11 minutes.

  - **How long does it take Ahmed to finish all his homework ?**
  - **How long does it take Mai to finish all of her homework ?**
  - **How much longer did Ahmed take to do his homework than Mai ?**

Notes for parents

- Help your child to solve challenge in this page.

Place a smile face

الممسوحة ضوئيا بـ CamScanner

Lesson

116 Measuring length

Learn

REMEMBER How to use a ruler to measure the length of any object as a pencil ?

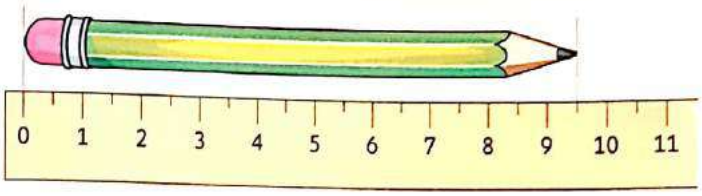
Step 1

Line up one end of the pencil with the zero mark on the ruler.

Step 2

Find the centimeter mark on the ruler that is at the other end of the pencil.

o What is the length of the pencil in centimeters ?



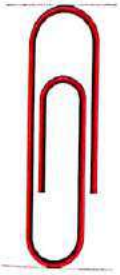
The end of the pencil falls exactly at midpoint between 9 cm and 10 cm.

Then the length of the pencil is 9 and half cm

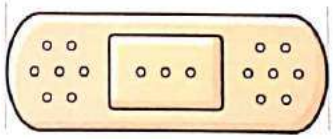
You can record the measure using fraction form as $9\frac{1}{2}$ cm

Check

Measure the length of each object.

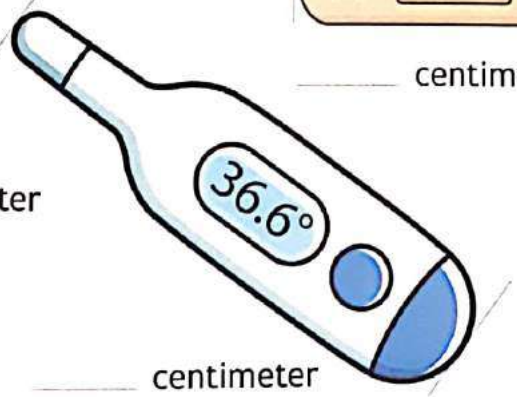


_____ centimeter

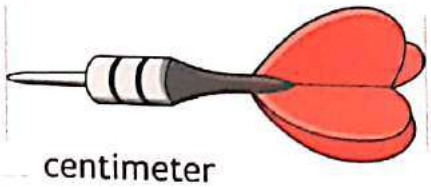


_____ centimeter

_____ centimeter



_____ centimeter



_____ centimeter

Connect :

• Remind your child how he/she multiply by 10s.
Ask him/her to find the products as : $20 \times 5 =$ ____ , $3 \times 70 =$ ____ , $30 \times 9 =$ ____ ,
$3 \times 60 =$ ____ , $5 \times 40 =$ ____ , $80 \times 2 =$ ____

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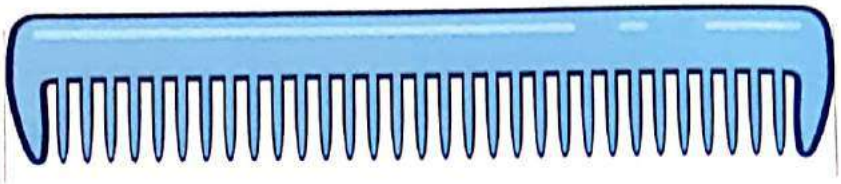
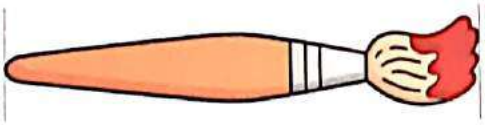
Practice

Measure the length of each object.

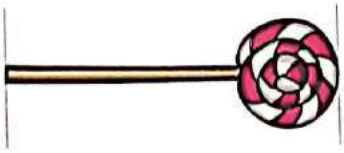


_____ cm

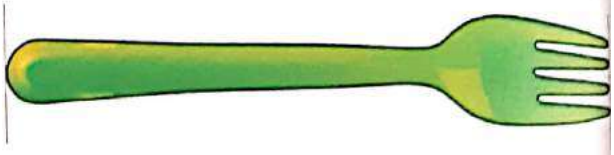


_____ cm

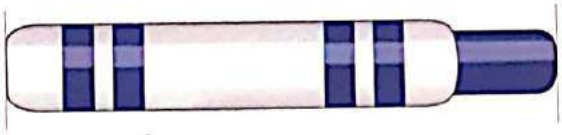
_____ cm



_____ cm



_____ cm



_____ cm

_____ cm

_____ cm

_____ cm

Notes for parents

- Bring different objects and ask your child measure the length of each one to the nearest cm.

الممسوحة ضوئيا بـ CamScanner

Learn Using a line plot to record data

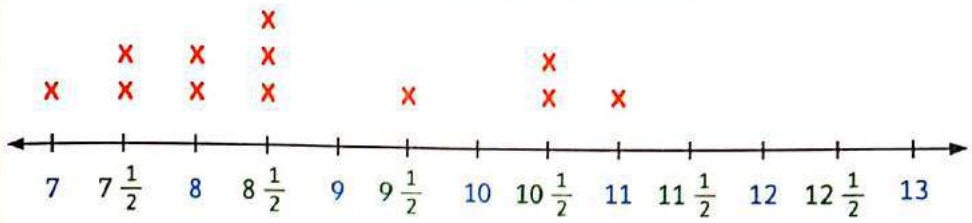
How can you use a line plot to record the data ?

Sara measured the lengths of the pencils of her friends to the nearest $\frac{1}{2}$ cm and the lengths were as follows.

7 cm	$10\frac{1}{2}$ cm	8 cm	$9\frac{1}{2}$ cm
8 cm	$8\frac{1}{2}$ cm	$7\frac{1}{2}$ cm	$8\frac{1}{2}$ cm
11 cm	$10\frac{1}{2}$ cm	$8\frac{1}{2}$ cm	$7\frac{1}{2}$ cm

- She uses the data to complete the line plot.

Title: Measuring of pencil lengths



Centimeters

Key: Each X = 1 pencil

- How many pencils its lengths greater than 10 cm ? 3 pencils
- How many pencils of length $7\frac{1}{2}$ cm ? 2 pencils
- What is the most frequent measurement ? $8\frac{1}{2}$ cm

• Help your child to measure the objects to the nearest $\frac{1}{2}$.

الممسوحة ضوئيا بـ CamScanner

Practice

Use the following measurements of coloring pencils to form a line plot.

8 cm	$7\frac{1}{2}$ cm	10 cm	13 cm
10 cm	9 cm	$9\frac{1}{2}$ cm	$8\frac{1}{2}$ cm
$7\frac{1}{2}$ cm	11 cm	8 cm	12 cm
12 cm	$12\frac{1}{2}$ cm	$7\frac{1}{2}$ cm	7 cm

Title _____

Key Each X = 1 color pencil

- Answer the following questions.
  - How many color pencils are longer than 9 cm ? _____
  - How many color pencils are shorter than $8\frac{1}{2}$ cm ? _____
  - What is the most frequent measurement ? _____

Notes for parents

- Remind your child how to form a line plot.

الممسوحة ضوئيا بـ CamScanner

Use the following measurements of erasers length to form a line plot.

2 cm	3 cm	$3\frac{1}{2}$ cm	$4\frac{1}{2}$ cm	5 cm
$2\frac{1}{2}$ cm	4 cm	$3\frac{1}{2}$ cm	3 cm	$2\frac{1}{2}$ cm
4 cm	$4\frac{1}{2}$ cm	$2\frac{1}{2}$ cm	5 cm	$3\frac{1}{2}$ cm

Title _____

Key: Each X = 1 eraser

Answer the following questions.

- How many erasers are taller than 4 cm ? _____
- How many erasers are shorter than $3\frac{1}{2}$ cm ? _____
- What is the most frequent measurement ? _____
- What is the least frequent measurement ? _____

• Help your child to write a suitable title to the line plot.

Place a smiley face

الممسوحة ضوئيا بـ CamScanner

Lesson 117

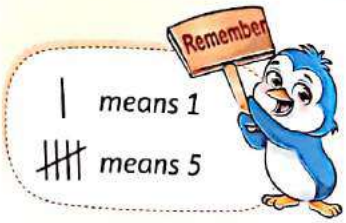
Graphs

Learn

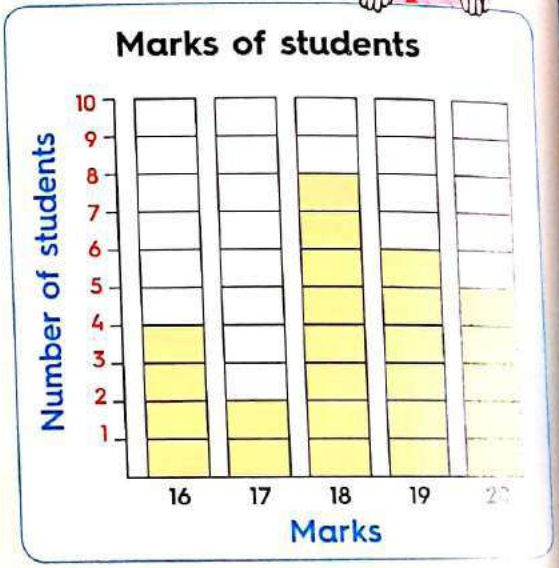
- **Data can be represented by more than one way.**

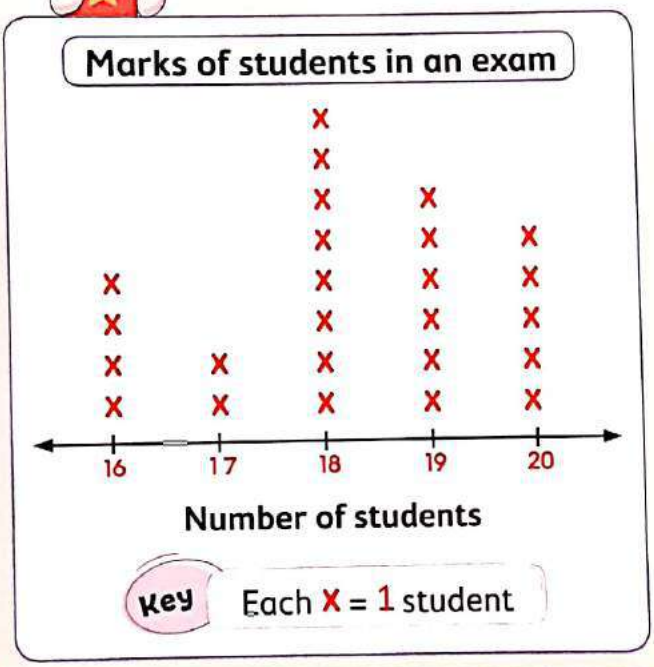
This is a survey about students marks in an exam.

The data is organized in a tally table.



Marks of students in an exam		
Marks	Tally	Number
16	||||	4
17	||	2
18	𝍸 |||	8
19	𝍸 |	6
20	𝍸	5





Notes for parents

Chapter 6
Lesson 117

Connect :

- Review with your child division facts for 3s and 4s, for example :
  $12 \div 3$, $16 \div 4$, $36 \div 3$, $12 \div 4$, $36 \div 4$, $21 \div 3$, $30 \div 3$, $32 \div 4$, ...

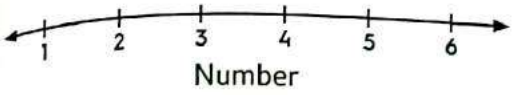
الممسوحة ضوئيا بـ CamScanner

Practice

1 The following table shows the roll of dice 35 times. Represent the data by a line plot.

Dice rolls

Dice rolls		
Number	Tally	Times
1	𝍸 |	6
2	𝍸	5
3	𝍸 ||||	9
4	𝍸 |||	8
5	|||	3
6	||||	4



Key

Each X

= _____ time

- Answer the following questions :
  - Which number is rolled the most ? _____
  - Which number is rolled the least ? _____
  - How many times shows an even number ? _____
  - How many times shows an odd number ? _____
  - What is the difference between the total even rolls and total odd rolls ? _____

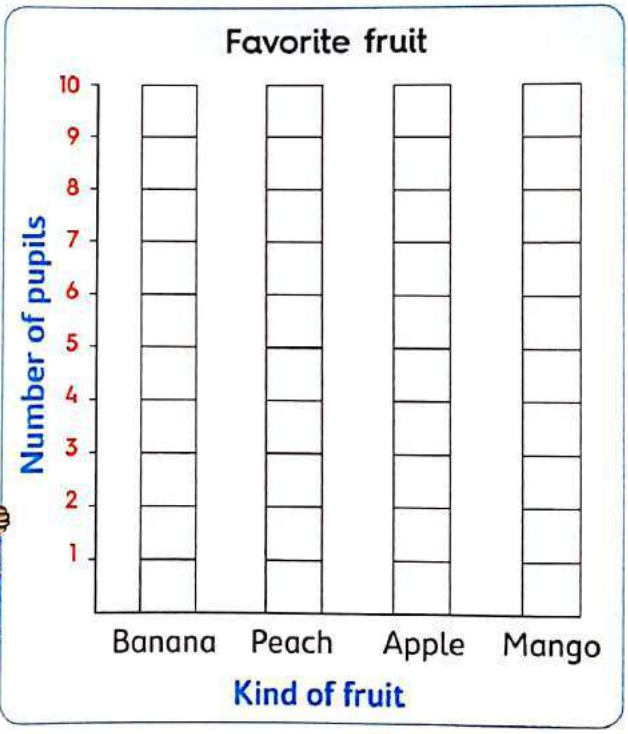
Even number such as :
0, 2, 4, 6, 8, ____

Odd number such as :
1, 3, 5, 7, 9, ____

2 The following tally table shows the class favorite fruit, complete the table. Represent these data by a bar graph.

Favorite fruit		
Fruit	Tally	Number
Banana	𝍸 |||	____
Peach	||||	____
Apple	𝍸 𝍸	____
Mango	𝍸 |	____

- Answer the following questions :
  - Which fruit is liked the most ? _____
  - Which fruit is liked the least ? _____
  - How many more pupils liked banana than mango ? _____



- Ask your child to represent the first practice in this page by bar graph and the second practice by pictograph.

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Complete the table, represent the data by a line plot.

Ages of children in karate class

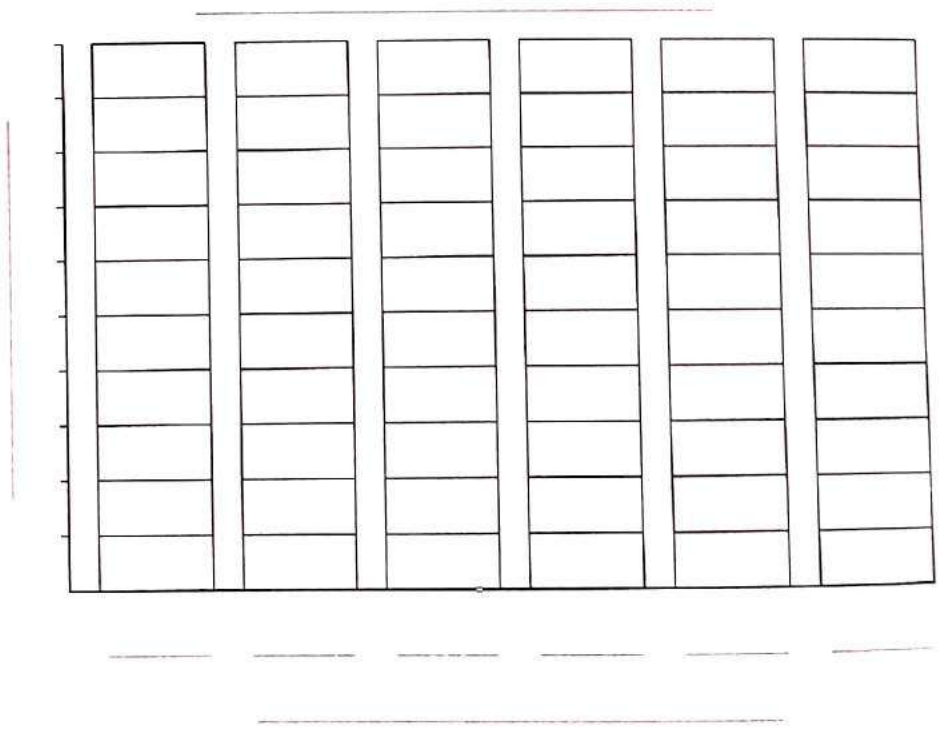
Key Each x represents _____

Ages of children in karate class		
Age in years	Tally	Number
7	||	
8	||||	
9	||	
10	𝍸 |	
11	|||	
12	||	

Answer the following questions :

- How many children in the class are 11 years ? _____ children.
- What age is the greatest number of children ? _____ years old.
- How many children are even years old ? _____ children.
- How many children are in karate class in all ? _____ children.

Represent the data by a bar graph.



Notes for parents

- Let your child explain how to represent data by line plot and bar graph.

الممسوحة ضوئيا بـ CamScanner

Complete the table, represent the data by a line plot.

_____

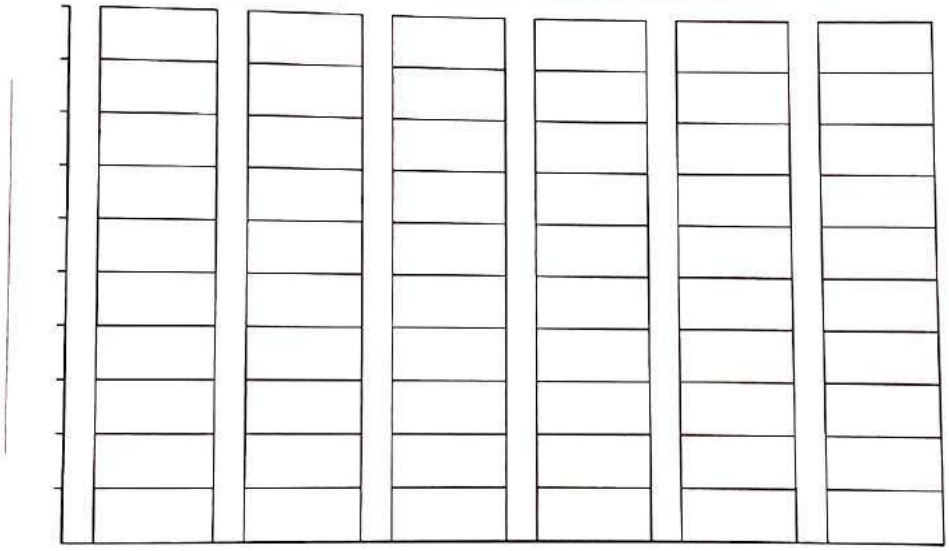
Players' ages of football team

Age	Tally	Number
22	|||	_____
23	𝍸 |	_____
24	𝍸 |||	_____
25	𝍸 |	_____
26	||	_____
27	|||	_____

Key Each x represents _____

- **Represent the data by bar graph :**

_____



_____ _____ _____ _____ _____ _____

_____

- **Answer the following questions :**
  - How many players are 25 years old ? _____
  - Which age has the greatest number of players ? _____
  - How many players are younger than 26 years old ? _____
  - How many players are in the football team ? _____

- Ask your child to represent these data by pictograph.

Place a smiley face

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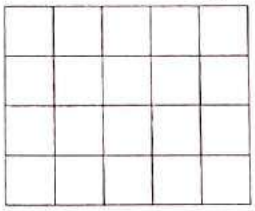
Lesson

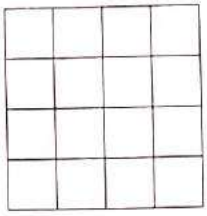
118 More practice on area and perimeter

Find the area and perimeter of each of the following.



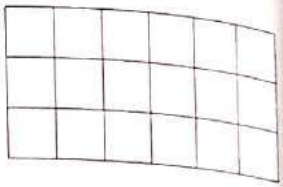
Area = _____

Perimeter = _____



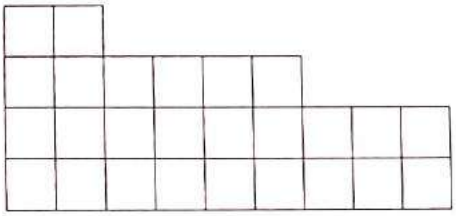
Area = _____

Perimeter = _____



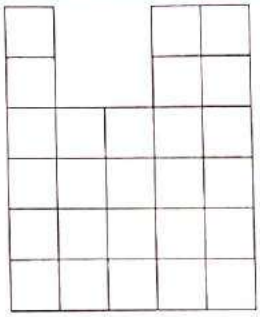
Area = _____

Perimeter = _____



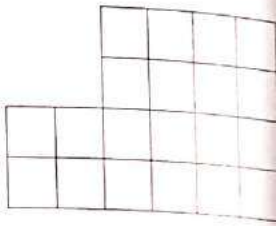
Area = _____

Perimeter = _____



Area = _____

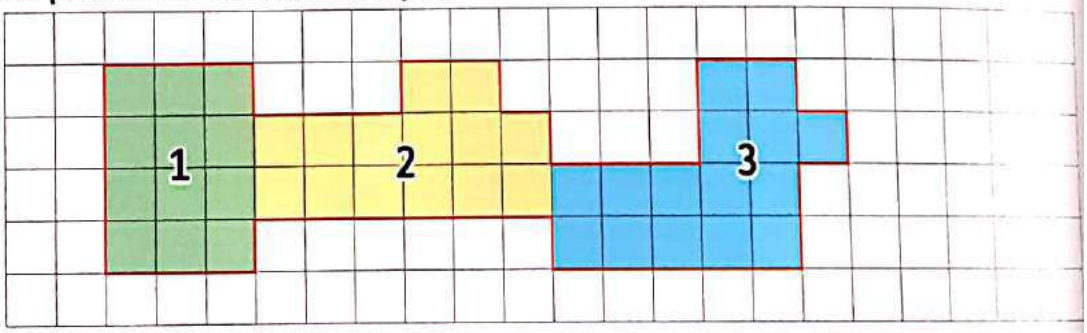
Perimeter = _____



Area = _____

Perimeter = _____

The following grid shows connecting shapes. Find the area and the perimeter of each shape.



Shape	Area	Perimeter
1		
2		
3		

- What is the total area of the whole shape ? _____
- What is the perimeter of the whole shape ? _____

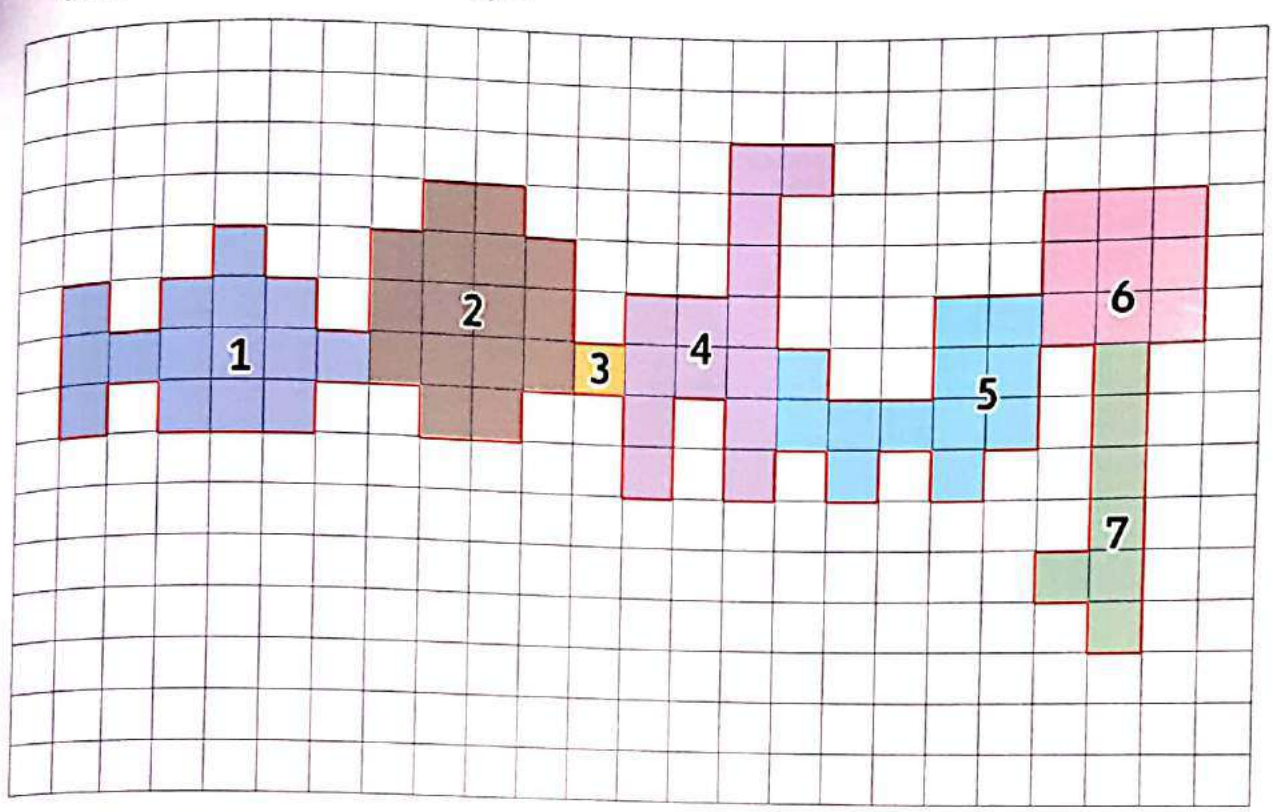
Notes for parents

Connect :

- Play with your child some multiplication and division games.

الممسوحة ضوئيا بـ CamScanner

The following grid shows connecting shapes. Find the area and the perimeter of each shape.



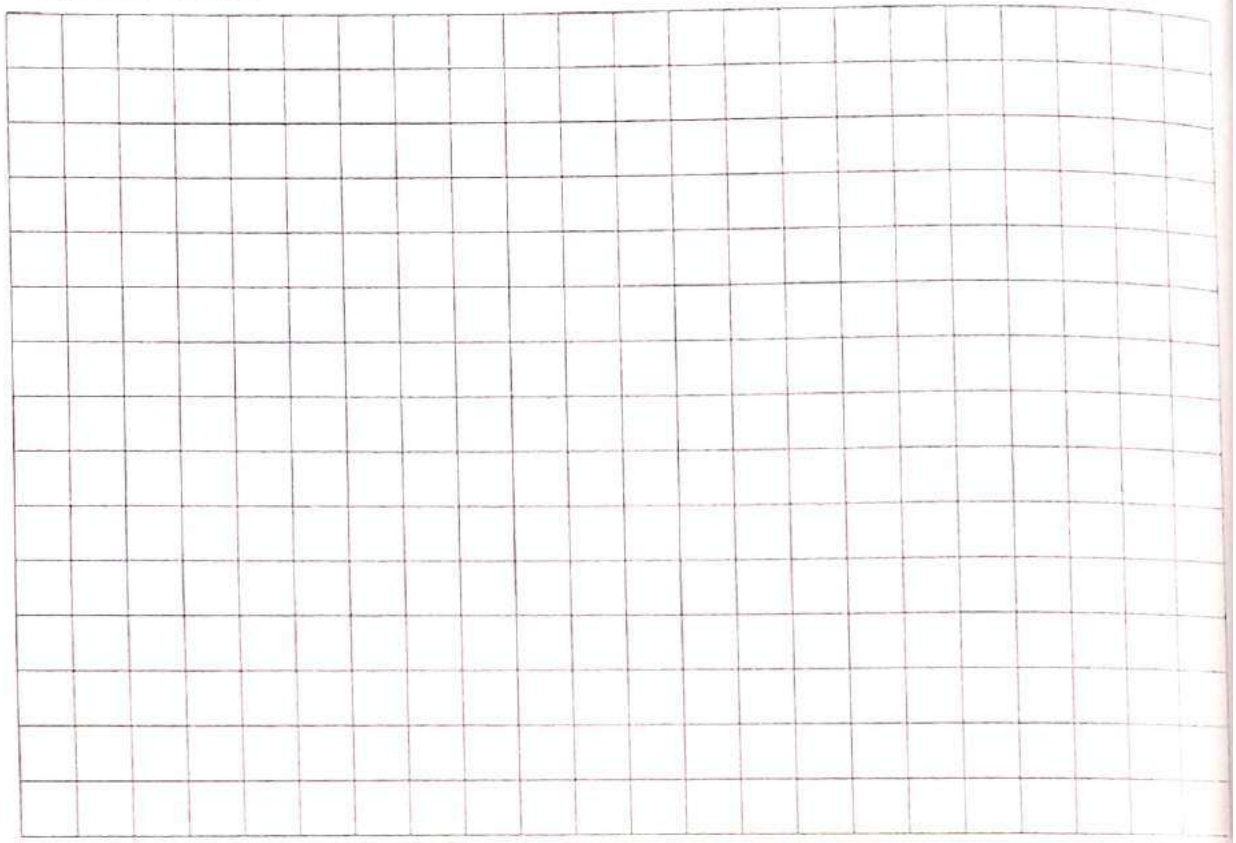
Shape	Area (square unit)	Perimeter (unit)
1		
2		
3		
4		
5		
6		
7		

- What is the total area of the whole shape ? _____
- What is the perimeter of the whole shape ? _____

• Help your child to find area and perimeter of each shape, remind your child to not calculate perimeter with the inner sides.

الممسوحة ضوئيا بـ CamScanner

Create your own connecting shapes. Find the area and the perimeter on the table.



Shape	Area	Perimeter

- What is the total area of the whole shape ? _____
- What is the perimeter of the whole shape ? _____

Notes for parents

- Let your child imagine the shape he/she draw and help him/her to draw then find the area and the perimeter of it.

Plac
a sm
fa

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Lessons 119 & 120

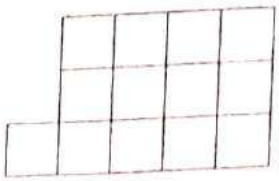
Review on primary three

- Put >, < or =.
  - 2,458 ◯ 2,460
  - 61,001 ◯ 16,002
  - 348,571 ◯ 328,629

- Find the area and the perimeter.

Area = ____

Perimeter = ____



- Write the fact family for.

(7) (3) (21)

- ___ × ___ = ___
- ___ × ___ = ___
- ___ ÷ ___ = ___
- ___ ÷ ___ = ___

- Draw hour hand and minute hand.

07 : 45

10 : 10

- Write the following in expanded form.
  - 501,739 = ___ + ___ + ___ + ___ + ___
  - 64,580 = ___ + ___ + ___ + ___

- Use distributive property of multiplication to find.
  - 2 × 14 = ____
  - 5 × 13 = ____

- The movie started at 6:50 P.M. and ended at 9:15 P.M. How long was the movie ? choose.
  - ◯ 2 hours and 25 min
  - ◯ 3 hours and 25 min
  - ◯ 2 hours and 20 min
  - ◯ 3 hour and 30 min

- Write each factor pair and factors of the number 18.

___ × ___	___ × ___
___ × ___	___ × ___
___ × ___	___ × ___

Factors ____

- Find the results.

349 + 183 = ____	605 - 273 = ____

- Write the greatest and the least numbers formed from.

8 0 1 5 4 6

greatest ____ least ____

Connect :

- Give your child many problems on the addition, subtraction, multiplication and division, and ask him/her to solve many of them as he/she can in 5 minutes. Let your child pay attention to the operation symbols.

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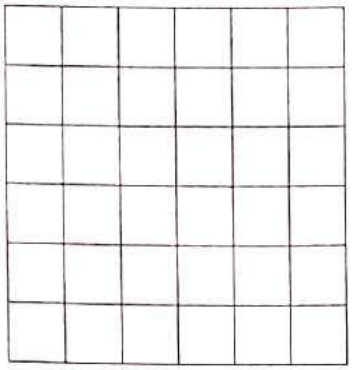
○ Color one half of the following square.



○ Put > , < or =.

- $\frac{1}{6}$ ◯ $\frac{4}{6}$
- $\frac{1}{3}$ ◯ $\frac{1}{8}$
- $\frac{1}{4}$ ◯ 1 whole

○ Calculate the area and the perimeter of the rectangle.

Area = _____

Perimeter = _____

○ Who am I ?

I have a zero in my ones place, one of my factors is 4. I am double of 10.

I am _____

○ Find.

- $\frac{1}{3} + \frac{1}{3} =$ ____
- $\frac{7}{8} - \frac{3}{8} =$ ____
- $\frac{1}{6} + \frac{3}{6} =$ ____
- $\frac{5}{12} - \frac{3}{12} =$ ____

○ Discover the rule pattern. Write the missing numbers.

Pattern	Rule
52 , 51 , 50 , 49 , ____ , ____	____
60 , 62 , 64 , 66 , ____ , ____	____
5 , 10 , 15 , 20 , ____ , ____	____

○ Choose the suitable unit to measure.

◯ L ◯ mL

○ Choose the correct value of the digit 3 in 439,012.

◯ 300,000 ◯ 30,000

◯ 3,000 ◯ 300

Notes for parents

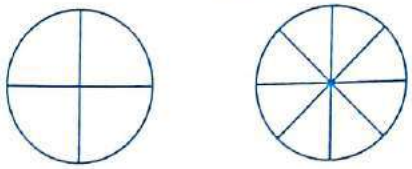
- In these last lessons, your child will review what he/she studied in primary three.

الممسوحة ضوئيا بـ CamScanner

- Ahmed studies for $\frac{1}{8}$ of a day.
  How many hours does he study ?

_____

- Write and color the equivalent fraction for $\frac{3}{4} = \frac{\square}{\square}$

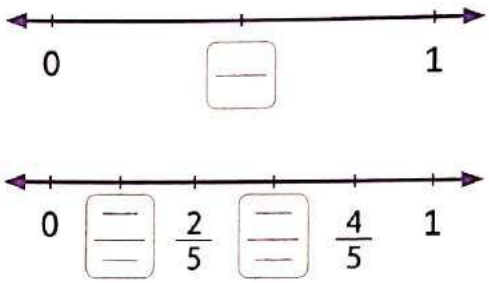


- Rearrange the numbers from the least to the greatest.

19,728	599	8,099
248,671	25,923	

The order is : _____ , _____ , _____ , _____ , _____

- Complete the missing fraction.



- Complete the following.

- $\frac{3}{5} = \frac{\square}{25} = \frac{9}{\square}$
- $\frac{1}{4} = \frac{7}{\square}$
- $\frac{1}{2} = \frac{4}{\square} = \frac{\square}{12}$

- Find the missing numbers.

$12 \div \square = 2$	$\square \times 8 = 0$
$\square \times 3 = 27$	$\square \div 5 = 1$
$\square \div 6 = 6$	$4 \times \square = 28$

- Find the product.

- $2 \times 3 \times 5$

_____

- 3×18

_____

- Sally ate $\frac{2}{8}$ of a pizza and Martin ate $\frac{2}{5}$ of it.
  Who ate more pizza ?

_____

_____

الممسوحة ضوئيا بـ CamScanner

Omar saved 1,650 pounds in one year.
The next year he saved 1,890 pounds.
What is the total amount he saved in the two years ?

Sara bought 3 sandwiches of 8 pounds each.
She paid 30 pounds.
How much is the rest ?

Bassem has 6 apples , he wants to divide them equally among his 3 friends.

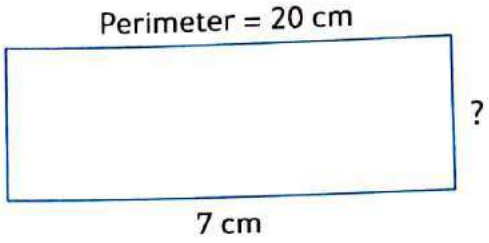
- How many apples will each friend get ?

- What fraction of the whole would they each receive ?

Hala needs $\frac{3}{4}$ cup of milk to make pancakes, she only has $\frac{1}{4}$ cup of milk.
How much more milk does she need ?

الممسوحة ضوئيا بـ CamScanner

Find the width of the rectangle which its length is 7 cm and its perimeter is 20 cm. Find the area of the rectangle.



Find each of the following.

$\frac{1}{6}$ of 12 = _____

$\frac{1}{3}$ of 15 = _____

$\frac{1}{2}$ of 10 = _____

$\frac{1}{4}$ of 8 = _____

Draw two sketches of the same perimeter of 16 cm.
Find the area of each sketch you draw. Remember label the sides.

Area = _____

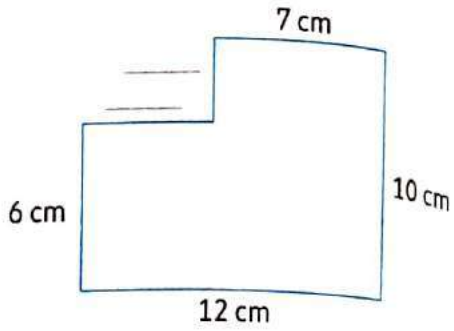
Area = _____

Complete the table.

Start time	End time	Elapsed time
9:30 A.M.	3:40 P.M.	_____
1:20 P.M.	_____	4 hours and 15 minutes
_____	7:50 P.M.	1 hour and 20 minutes

الممسوحة ضوئيا بـ CamScanner

Calculate the perimeter and the area of the opposite shape.



Mariam distributed 24 L.E. among her three sons equally. Find the share of each son.

24

_____ ÷ _____ = _____ | The share = _____ L.E.

Represent the following fraction in the number line.

$\frac{2}{3}$

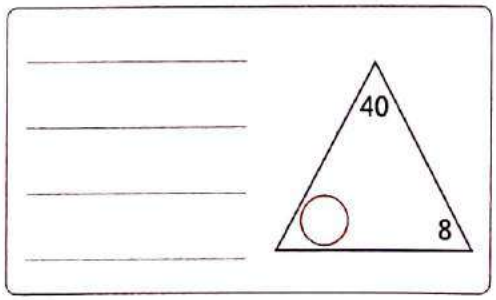
$\frac{3}{4}$

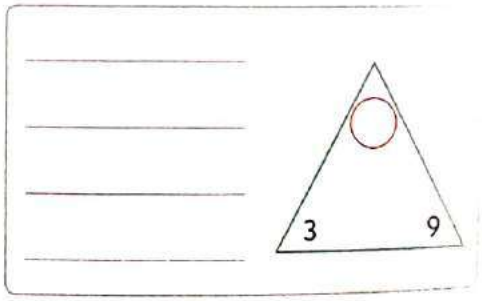
Look for a pattern. Complete the next three fractions and describe the pattern.

$\frac{1}{4}$, $\frac{2}{8}$, $\frac{3}{12}$, $\frac{4}{__}$, $\frac{5}{__}$, $\frac{6}{__}$

Description of the pattern : _____

Find the missing number in each fact family. Write the four fact family.





Place a smiley face

الممسوحة ضوئيا بـ CamScanner

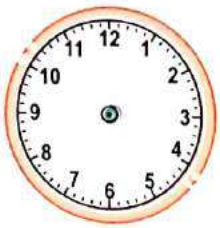
Activity
Chapter 6

Your Daily Routine

In this activity, you will record start time and end time to find the elapsed time of your daily activity.

Breakfast time

wake up


finish breakfast

Elapsed time : _____

Going to school time

leave home

arrive school

Elapsed time : _____

School time

arrive school

leave school

Elapsed time : _____

Lunch time

start lunch

end lunch

Elapsed time : _____

Studying time

start study

end study

Elapsed time : _____

Bed time

going to bed

wake up

Elapsed time : _____

الممسوحة ضوئيا بـ CamScanner

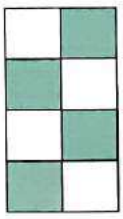
Extra Practice

Chapter 6

1 Complete the following.

① • Number of all parts = ——

• Number of colored parts = ——

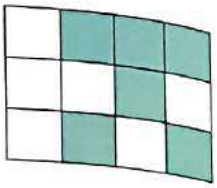


• Number of uncolored parts = ——

• The fraction which represents the colored parts = ——

② • Number of all parts = ——

• Number of colored parts = ——



• Number of uncolored parts = ——

• The fraction which represents the colored parts = ——

2 Find the half of area of each of the following rectangles.

① ——

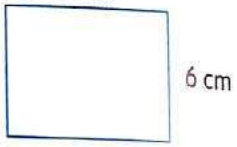
——

——

② ——

——

——



③ ——

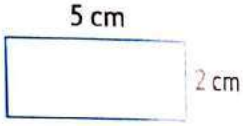
——

——

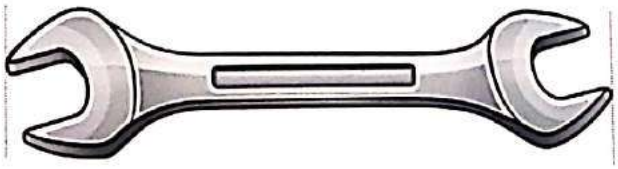
④ ——

——

——



3 Find the length of each object.



—— cm

—— cm

—— cm

• In this practice your child will review on all what he/she had learned in chapter 6

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4 put the following fractions on the number line.

① $\frac{5}{8}$, $\frac{0}{7}$, $\frac{1}{4}$, $\frac{1}{2}$

② $\frac{1}{4}$, $\frac{5}{12}$, $\frac{3}{12}$, $\frac{3}{6}$

③ $\frac{5}{5}$, $\frac{7}{10}$, $\frac{2}{4}$, $\frac{1}{2}$

5 Complete.

① 500,000 + 7,000 + 7 tens + 500 = _____ (in standard form)

② 925,047 = _____ + _____ + _____ + _____ + _____ (in expanded form)

③ Three hundred forty-three thousoud, five hundred twelve = _____ (in standard form)

④ The place value of the digit 7 in the number 372,428 is _____

⑤ The value of the digit 5 in the number 325,894 is _____

⑥ 370 , 128 is _____ (in word form)

⑦ The greatest number formed from the digits 3 , 9 , 2 , 8 is _____

⑧ The smallest number formed from the digits 7 , 0 , 3 , 1 , 8 is _____

6 ① Write the following numbers in order from least to greatest.

45,281	720,241	99,999	501,421

The order is : _____ , _____ , _____ , _____

② Write the following numbers in order from greatest to least.

102,210	201,210	792	37,040

The order is : _____ , _____ , _____ , _____

الممسوحة ضوئيا بـ CamScanner

7 Complete the table below.

Start time	End time	Elapsed time
_____	2:30 P.M.	3 hours and 20 minutes
2:45 A.M.	3:25 A.M.	_____
7:15 P.M.	_____	2 hours and 10 minutes
_____	4:10 P.M.	3 hours and 15 minutes

8 Compare using > , < or =.

① 7,345 ◯ 3,951

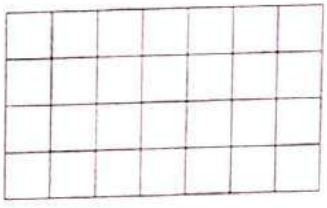
② 5 thousands ◯ 500 hundreds

③ 78,540 ◯ 70,000 + 8,000 + 500 + 40

④ 85,421 ◯ eighty six thousand, four hundred forty

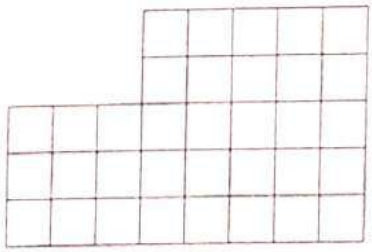
⑤ 37 thousands ◯ 370 hundreds

9 Find the area and the perimeter of each of the following.



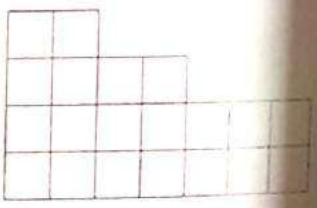
Area = _____

Perimeter = _____



Area = _____

Perimeter = _____



Area = _____

Perimeter = _____

الممسوحة ضوئيا بـ CamScanner

10 Use the given pencil lengths to form a line plot, then answer the questions.

$7\frac{1}{2}$ cm.	5 cm.	7 cm.	$8\frac{1}{2}$ cm.
7 cm.	8 cm.	$5\frac{1}{2}$ cm.	$7\frac{1}{2}$ cm.
9 cm.	$8\frac{1}{2}$ cm.	7 cm.	5 cm.

Title _____

Key: Each x = 1 pencil

(a) What is the most frequent measurement ? _____

(b) How many pencils are less than 8 cm ? _____

11 Reham needs to paint a wall equally with two different colors. The wall is 8 meters by 4 meters. How much should she paint with one color ? Explain your work.

_____

_____

_____

12 Khaled arrives at school at 7:40 A.M. He leaves school at 3:25 P.M. How long was Khaled at school ?

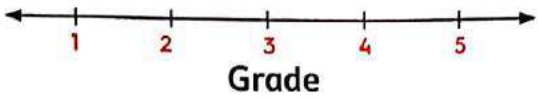
_____

_____

الممسوحة ضوئيا بـ CamScanner

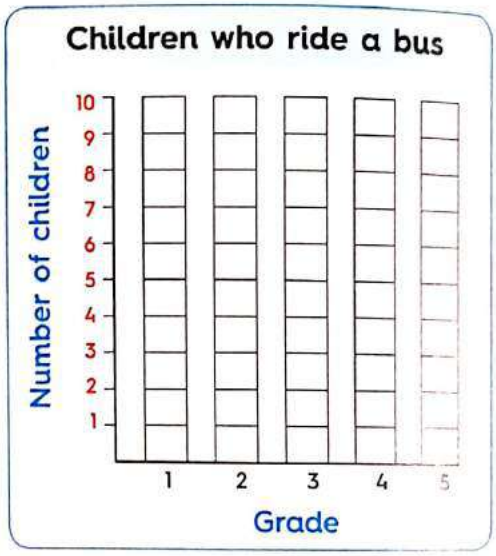
13 The following data shows the number of children who ride a bus to school from grade 1 to grade 5. Represent the data by a line plot and a bar graph.

Riding a bus to school



Key: Each X = ____ child

Riding a bus to school		
Grade	Number of children	Number
1	𝍸 𝍸	____
2	𝍸	____
3	𝍸 |	____
4	||||	____
5	𝍸 |||	____



- Answer the following questions :
  - Which grade has the most children ride a bus to school ? ____
  - How many children in grade 2 and grade 5 ? ____
  - What is the difference between the total number of odd and even grades ? ____

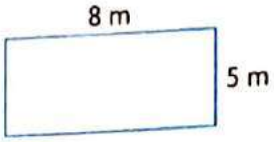
الممسوحة ضوئيا بـ CamScanner

Assessment
Chapter 6

1 Choose.

(1) 372,500 ◯ three hundred seventy-two thousand, five
(> or < or =)

(2) The half of area of the opposite figure = ____ square meters.

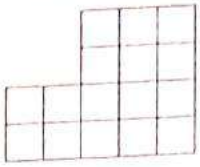


(40 or 20 or 10)

(3) The greatest number formed form 3 , 7 , 0 , 9 is ____

(7930 or 3079 or 9730)

(4) The perimeter of the opposite figure = ____



(17 or 18 or 16)

(5) The length of the opposite figure is ____ cm.

($4\frac{1}{2}$ or 5 or $5\frac{1}{2}$)

2 Find the elapsed time.

Start time

End time

3 Put the fractions on the number line.

$\frac{6}{6}$, $\frac{4}{8}$, $\frac{2}{8}$, $\frac{1}{2}$

4 Represent the data by a line plot.

Title _____

Key Each X = ____

Ages of children in a ballet class		
Age	Tally	Number
3	|||	
4	𝍸 |	
5	||||	
6	𝍸 ||||	
7	𝍸 ||	
8	𝍸 |||	

الممسوحة ضوئيا بـ CamScanner

EL-MOASSER

Mathematics

By a group of supervisors

FREE PART 1

Worksheets & Final Assessments

3rd Primary 2021

SECOND TERM

Worksheets

Sheet 1

On lesson 61 chapter 1

Find the product.

- $3 \times (4 \times 2) =$ ____ × ____ = ____
- $(5 \times 6) \times 7 =$ ____ × ____ = ____
- $(5 \times 4) \times 9 =$ ____ × ____ = ____
- $4 \times 3 \times 3 =$ ____ × ____ = ____
- $8 \times 1 \times 9 =$ ____ × ____ = ____

Choose.

- $4 \times (3 \times 5) = (4 \times$ ____ $) \times 5$

  ◯ 3 ◯ 15 ◯ 12 ◯ 7

- $6 \times 2 \times 4 =$ ____

  ◯ 46 ◯ 48 ◯ 52 ◯ 56

- $5 \times 9 \times 8 =$ ____

  ◯ 450 ◯ 360 ◯ 720 ◯ 400

- $7 \times 3 \times 3 =$ ____ $\times 9$

  ◯ 3 ◯ 10 ◯ 7 ◯ 6

Put >, < or =.

- $(3 \times 2) \times 4$ ◯ $(4 \times 2) \times 4$
- $(1 \times 5) \times 8$ ◯ $4 \times (5 \times 2)$
- $4 \times 7 \times 2$ ◯ $5 \times 5 \times 6$
- $3 \times 5 \times 3$ ◯ $2 \times 5 \times 3$
- $2 \times 9 \times 3$ ◯ $(3 \times 4) \times 10$
- $(7 \times 1) \times 7$ ◯ $(2 \times 5) \times 15$

Sheet 2

Till lesson 62 chapter 1

Choose.

- $3 \times 12 = 3 \times (____ + 2)$

  ○ 15 ○ 12
  ○ 10 ○ 9

- $11 \times 6 = ____$

  ○ 66 ○ 16
  ○ 17 ○ 60

- $4 \times 13 = ____$

  ○ 42 ○ 44
  ○ 48 ○ 52

- $2 \times 7 \times 5 = ____$

  ○ 80 ○ 70
  ○ 60 ○ 40

Find the product.

- $8 \times 13 = ____$
  $= ____$
  $= ____$

- $14 \times 7 = ____$
  $= ____$
  $= ____$

- $6 \times 19 = ____$
  $= ____$
  $= ____$
  $= ____$

- $3 \times 16 = ____$
  $= ____$
  $= ____$
  $= ____$

Arrange the following from the least to the greatest.

- 7×9 , 4×17 , 9×11 , 2×18

  The order is : ____ , ____ , ____ , ____

- 16×7 , 5×15 , 3×12 , 19×6

  The order is : ____ , ____ , ____ , ____

- 13×8 , 6×6 , 7×10 , 7×17

  The order is : ____ , ____ , ____ , ____

Sheet 3

Till lesson 63 chapter 1

Choose.

- $7 \times 8 = 7 \times (____ + 5)$

  ○ 8 ○ 1 ○ 3 ○ 4

- $5 \times (4 \times 2) =$ ____

  ○ 40 ○ 30 ○ 18 ○ 28

- $2 \times 3 \times \square = 30$

  ○ 10 ○ 5 ○ 15 ○ 20

- $5 \times (3 + 7) =$ ____

  ○ 50 ○ 35 ○ 15 ○ 12

Complete.

- The estimation of 5×9 is ____
- The estimation of $3 \times 6 \times 7$ is ____
- The estimation of 13×4 is ____
- The estimation of 7×19 is ____

Estimations may vary

Answer the following.

- There are 3 bags, each bag holds 5 boxes, in each box there are 10 candies.

  How many candies are in all ?

- A baker bakes 12 cakes in one hour.

  Estimate how many cakes he can bake in 8 hours.

Sheet 4

Till lessons 64 & 65 chapter 1

Choose.

- 27 ÷ 3 = _____

○ 9 ○ 8 ○ 10 ○ 7

- _____ × 6 = 48

○ 6 ○ 7 ○ 8 ○ 9

- The product of 4 , 2 and 3 is _____

○ 30 ○ 10 ○ 48 ○ 24

- 42 ÷ _____ = 6

○ 8 ○ 6 ○ 5 ○ 7

Complete.

- _____ ÷ 5 = 4
- 6 × 14 = _____
- 54 ÷ 9 = _____
- 3 × _____ = 30

Answer the following.

- Dina bought 7 pens for 12 pounds each.

How much money did she pay ?

- Bassem has 36 apples, he wants to pack each 4 apples in a bag.

How many bags does he need ?

Sheet 5

Till lesson 66 chapter 1

Choose.

- The perimeter of the square whose side length is 9 cm = _____ cm

  ○ 18 ○ 27 ○ 36 ○ 45

- The perimeter of the rectangle whose length is 7 cm and width 3 cm = _____ cm

  ○ 10 ○ 20 ○ 21 ○ 30

- The area of the square

= _____ square cm

  ○ 64 ○ 32 ○ 16 ○ 80

- 13 × 5 = _____

  ○ 50 ○ 55 ○ 60 ○ 65

Complete.

- The area of the rectangle

= _____ square cm

- 2 × 5 × 8 = _____

- The side length of the square whose perimeter is 8 m = _____ m

- The length of the rectangle whose width is 6 cm and perimeter is 28 cm = _____ cm

Answer the following.

- Ayman ran around a track in the shape of a square whose side length is 18 m. If Ayman completed one round.

  Find how many meters Ayman ran.

- Karma stretched a tape of robbin and made with it a rectangle of length 20 cm and perimeter 60 cm.

  Find the width of the rectangle.

Sheet 6

Till lessons 67 to 70 chapter 1

Choose.

- $4 \times 7 \times 2 =$ _____

  ◯ 8×7 ◯ 6×7 ◯ 4×9 ◯ 13×2

- $10 \times 17 =$ _____

  ◯ 27 ◯ 170 ◯ 107 ◯ 71

- $40 \div$ _____ $= 5$

  ◯ 20 ◯ 8 ◯ 10 ◯ 4

- There were 19 carrots, one rabbit ate 4 carrots and another 5 rabbits ate the rest, then each rabbit of them ate _____ carrots.

  ◯ 4 ◯ 5 ◯ 3 ◯ 2

Complete.

- _____ $\times 3 = 12$
- $28 \div 7 =$ _____
- _____ $\div 6 = 8$
- $5 \times 9 =$ _____

Answer the following.

- Hany bought 4 kilogram of apple, the price of each kilogram is 9 pounds, Amgad bought 1 kilogram of mango for 25 pounds.

  How much money did they pay all together ?

- Martin has 85 pounds. He gave his sister 45 pounds and shared the rest with 4 of his friends.

  How much money does Martin have now ?

Sheet 7

On lesson 71 chapter 2

Choose.

- The shape is divided into _____ parts.

◯ equal ◯ unequal

- The shape is divided into _____ equal parts.

◯ 4 ◯ 5 ◯ 6 ◯ 3

- The shape is divided into _____

◯ 4 equal parts ◯ 5 unequal parts
◯ 6 equal parts ◯ 4 unequal parts

- 48 ÷ _____ = 6

◯ 6 ◯ 7
◯ 8 ◯ 9

Write the name of the equal parts in each shape.

_____

_____

_____

_____

Draw.

- A figure and divide it into fifths.

- A figure and divide it into sixths.

Sheet 8

Till lesson 72 chapter 2

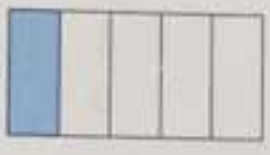
Choose.

- ___ of the shape is colored.

○ $\frac{1}{3}$ ○ $\frac{1}{4}$ ○ $\frac{1}{2}$ ○ $\frac{1}{5}$

- ___ of the shape is colored.

○ $\frac{1}{2}$ ○ $\frac{1}{3}$ ○ $\frac{1}{4}$ ○ $\frac{1}{6}$

- ___ of the shape  is colored.

○ $\frac{1}{6}$ ○ $\frac{1}{5}$ ○ $\frac{1}{7}$ ○ $\frac{1}{4}$

- ___ of the shape is colored.

○ $\frac{1}{5}$ ○ $\frac{1}{6}$ ○ $\frac{1}{7}$ ○ $\frac{1}{8}$

Complete.

- One whole = _____ fifths
- There are _____ fourths in a one whole.
- There are _____ ninths in a one whole.
- There are _____ thirds in one whole.

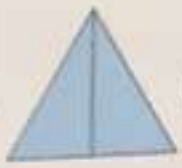
What is it ?

- A fraction, its numerator is 1 and its denominator is 7. ___
- A fraction, its numerator is 1 and its denominator is 8. ___

Sheet 9

Till lesson 73 chapter 2

Choose.

-  is divided into _____

  ◯ 2 equal parts ◯ 2 unequal parts
  ◯ 3 equal parts ◯ 4 equal parts

- is divided into _____

  ◯ sixths ◯ quarters
  ◯ fifths ◯ thirds

- is divided into _____

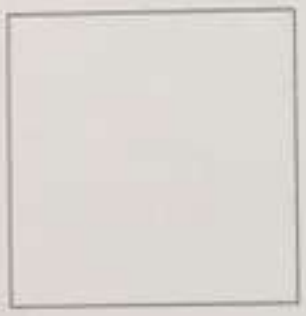
  ◯ halves ◯ thirds
  ◯ fourths ◯ eighths

- The fraction whose numerator is 1 and its denominator is 5 is _____

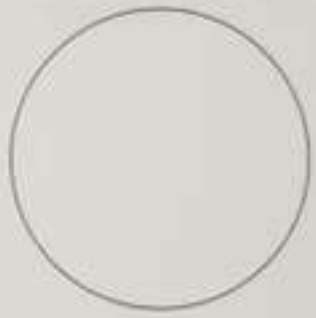
  ◯ $\frac{1}{6}$ ◯ $\frac{1}{3}$ ◯ $\frac{1}{2}$ ◯ $\frac{1}{5}$

Divide the shape into.

Fourths



Eighths



Answer the following.

- Rana wants to cut a piece of paper into equal pieces to share it with 5 of her friends.

  Which fraction matches each piece ?

  The fraction is _____

- Karim has a bar of candy. He cut it into 2 halves, then he cut each half into 3 thirds.

  Which fraction matches each piece ?

  The fraction is _____

Sheet 10

Till lesson 74 chapter 2

Choose.

- $\frac{1}{3}$ ____ $\frac{1}{5}$

  ○ < ○ = ○ >

- ____ < $\frac{1}{6}$

  ○ $\frac{1}{4}$ ○ $\frac{1}{2}$ ○ $\frac{1}{3}$ ○ $\frac{1}{10}$

- $\frac{1}{2}$ ____ 1

  ○ < ○ = ○ >

- One whole has ____ sevenths.

  ○ 6 ○ 4 ○ 2 ○ 7

Complete.

- $\frac{1}{2}$ > ____
- ____ > $\frac{1}{5}$
- 1 > ____
- $\frac{1}{8}$ < ____

Answers may vary

Using the numbers, complete the fact family.

- 6 , 4 , 24

  ____ × ____ = ____

  ____ × ____ = ____

  ____ ÷ ____ = ____

  ____ ÷ ____ = ____

- 7 , 8 , 56

  ____ × ____ = ____

  ____ × ____ = ____

  ____ ÷ ____ = ____

  ____ ÷ ____ = ____

Sheet 11

Till lesson 75 chapter 2

Choose.

- ____ of the fruits are apples.

○ $\frac{1}{5}$ ○ $\frac{1}{6}$ ○ $\frac{1}{3}$ ○ $\frac{1}{4}$

- ____ of the birds are on the tree.

○ $\frac{1}{2}$ ○ $\frac{1}{4}$ ○ $\frac{1}{3}$ ○ $\frac{1}{6}$

- $\frac{1}{9}$ ____ $\frac{1}{7}$

○ < ○ = ○ >

- ____ of the group are lions.

○ $\frac{1}{5}$ ○ $\frac{1}{6}$ ○ $\frac{1}{4}$ ○ $\frac{1}{3}$

Complete.

- The fraction of the pens in the set is ____

- The fraction of the cars in the set is ____

- A fraction its numerator is 1 and its denominator is 12 is ____
- One whole has ____ tenths.

Answer the following.

- Hazem has 3 blue marbles, 4 green marbles and 1 red marble.

  What fraction is red ?

- Wael bought a watch, a mobile and a laptop.

  What fraction is the watch ?

Sheet 12

Till lesson 76 chapter 2

Choose.

- Which is bigger ?
  - ○ $\frac{1}{3}$ of an apple.
  - ○ $\frac{1}{3}$ of a watermelon.
- Which is longer ?
  - ○ $\frac{1}{5}$ of meter.
  - ○ $\frac{1}{5}$ of a centimeter.
- Which is heavier ?
  - ○ $\frac{1}{2}$ of a kilogram.
  - ○ $\frac{1}{2}$ of a gram.
- Which is more ?
  - ○ $\frac{1}{4}$ of a millilitre.
  - ○ $\frac{1}{4}$ of a litre.

Put > , < or =.

- $\frac{1}{4}$ of a minute ☐ $\frac{1}{4}$ of an hour
- $\frac{1}{3}$ ☐ $\frac{1}{2}$
- $\frac{1}{8}$ of a pizza ☐ $\frac{1}{8}$ of a cookie
- $\frac{1}{6}$ of a 30 L.E. ☐ $\frac{1}{6}$ of a 12 L.E.

Answer the following.

- Bassem had 217 L.E. He gave 167 L.E. to his brother. Then Bassem distributed the rest among his 5 friends equally.

  How much money did each friend get ?

Sheet 13

Till lesson 77 chapter 2

Choose.

- $1 =$ _____

○ $\frac{1}{4}$ ○ $\frac{1}{2}$ ○ $\frac{1}{3}$ ○ $\frac{5}{5}$

- $1 = \frac{\quad}{14}$

○ 1 ○ 7 ○ 10 ○ 14

- $\frac{10}{\quad} = 1$

○ 1 ○ 10 ○ 2 ○ 5

- One whole = _____ tenths

○ 25 ○ 1 ○ 20 ○ 10

Complete.

- $1 = \frac{16}{\quad}$
- $\frac{\quad}{24} = 1$
- $\frac{4}{4} = \frac{3}{\quad}$

- The fraction that shows the whole shape

is _____

Answer the following.

- Bassem has 12 flowers, he gave his sister one flower.

What fraction shows the flowers with his sister ?

- Maged ran $\frac{1}{4}$ kilometer, Hany ran $\frac{1}{10}$ kilometer.

Which one ran farther ?

Sheet 14

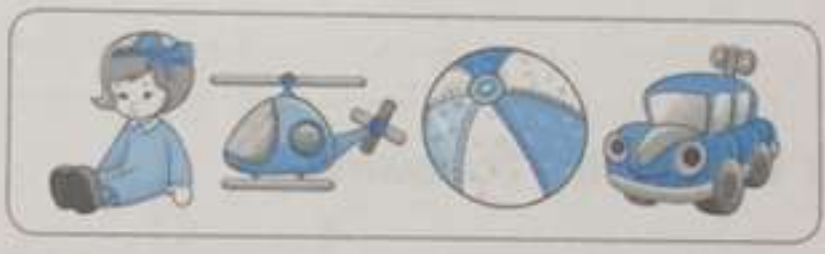
Till lessons 78 to 80 chapter 2

Choose.

- $\frac{1}{3}$ of 15 = _____
  - ○ 5
  - ○ 3
  - ○ 10
  - ○ 1
- $\frac{1}{8}$ of 32 = _____
  - ○ 6
  - ○ 5
  - ○ 4
  - ○ 3
- 30 ÷ 5 = _____
  - ○ 6
  - ○ 5
  - ○ 8
  - ○ 9
- $\frac{1}{9}$ of 63 = _____
  - ○ 4
  - ○ 5
  - ○ 6
  - ○ 7

Complete.

- $\frac{1}{2}$ of 18 = _____
- 1 = $\frac{\quad}{17}$
- $\frac{1}{6}$ of a day = _____ hours.
- _____ of the set are balls.



Answer the following.

- Samy has 8 candies, he ate $\frac{1}{4}$ of them.

  How many candies did Samy eat ?

- Hanan has 35 L.E., she wants to divide the money among five of her friends equally.

  How much money will each friend get ?

Sheet 15

Till lessons 81 to 83 chapter 3

Put > , < or =.

- $\frac{1}{4} \square \frac{1}{7}$
- $\frac{1}{20} \square \frac{1}{10}$
- $\frac{1}{2} \square \frac{1}{5}$
- $1 \square \frac{12}{12}$

Draw a number line to show.

- Sevenths.

- Ninths.

- Tenths

Answer the following.

- Mina wants to run $\frac{1}{5}$ kilometer everyday.

Draw a number line to show Mina's running.

How many days will Mina take to run a whole kilometer ? _____

- Find.

$\frac{1}{8}$ of 48 = _____

$\frac{1}{5}$ of 50 = _____

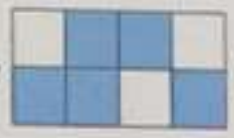
Sheet 16

Till lessons 84 to 86 chapter 3

Choose.

- The fraction of the shaded part of the shape is _____

  ○ $\frac{1}{5}$ ○ $\frac{2}{5}$ ○ $\frac{3}{5}$ ○ $\frac{4}{5}$

- The fraction of the shaded part of the shape  is _____

  ○ $\frac{5}{8}$ ○ $\frac{5}{7}$ ○ $\frac{5}{6}$ ○ $\frac{5}{5}$

- $\frac{3}{6}$ ☐ $\frac{4}{6}$

  ○ > ○ < ○ =

- 1 = _____ sixths.

  ○ 6 ○ 8 ○ 9 ○ 10

Complete.

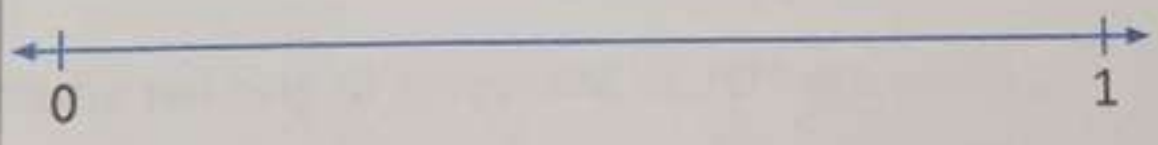
- $\frac{3}{8} >$ _____
- _____ $< \frac{4}{9}$
- _____ $< \frac{1}{3}$
- $\frac{5}{12} <$ _____

Answers may vary

Answer the following.

- Draw a shape and color $\frac{2}{5}$ of it.

- Represent on the number line each of $\frac{3}{10}$, $\frac{6}{10}$.



Sheet 17

Till lesson 87 chapter 3

Put >, < or =.

- $\frac{4}{5} \square \frac{4}{7}$
- $\frac{8}{10} \square \frac{8}{15}$
- $\frac{1}{9} \square \frac{1}{3}$
- $\frac{14}{14} \square \frac{20}{20}$

Choose.

- $\frac{2}{4} <$ _____

○ $\frac{2}{5}$ ○ $\frac{2}{3}$ ○ $\frac{2}{6}$ ○ $\frac{1}{2}$

- _____ $> \frac{4}{18}$

○ $\frac{4}{16}$ ○ $\frac{4}{20}$ ○ $\frac{4}{24}$ ○ $\frac{4}{30}$

- The fraction of the shaded part of the shape is _____

○ $\frac{2}{5}$ ○ $\frac{2}{4}$ ○ $\frac{2}{3}$ ○ $\frac{2}{2}$

- $\frac{1}{6}$ of 30 = _____

○ 6 ○ 5 ○ 4 ○ 8

Answer the following.

- Draw a number line to show twelfths.

- Magy has 70 L.E. She wants to give her sister $\frac{1}{10}$ of the money.

How much money will her sister take ?

Sheet 18

Till lesson 88 chapter 3

Choose.

- $\frac{2}{7} + \frac{4}{7} =$ _____

  ○ $\frac{5}{7}$ ○ $\frac{6}{7}$ ○ $\frac{6}{14}$ ○ $\frac{2}{14}$

- $\frac{1}{15} + \frac{9}{15} =$ _____

  ○ $\frac{9}{15}$ ○ $\frac{1}{15}$ ○ $\frac{10}{15}$ ○ $\frac{10}{30}$

- $\frac{2}{9} \square \frac{2}{7}$

  ○ > ○ < ○ =

- $\frac{3}{6} <$ _____

  ○ $\frac{1}{6}$ ○ $\frac{3}{11}$ ○ $\frac{5}{6}$ ○ $\frac{3}{16}$

Complete.

- $\frac{3}{16} + \frac{7}{16} =$ _____
- $\frac{5}{13} + \frac{3}{13} =$ _____
- $\frac{1}{8} + \frac{6}{8} =$ _____
- $\frac{4}{12} + \frac{8}{12} =$ _____

Put > , < or =.

- $\frac{2}{10} + \frac{3}{10} \square \frac{8}{10}$
- $\frac{1}{8} \square \frac{1}{14}$
- $\frac{1}{4} + \frac{3}{4} \square \frac{4}{6}$
- $\frac{4}{5} \square \frac{1}{9} + \frac{3}{9}$
- $\frac{3}{20} + \frac{8}{20} \square \frac{6}{18} + \frac{5}{18}$
- $\frac{3}{18} + \frac{6}{18} \square \frac{5}{18} + \frac{4}{18}$

Sheet 19

Till lesson 89 chapter 3

Choose.

- $\frac{7}{10} - \frac{5}{10} =$ _____

  ○ $\frac{2}{10}$ ○ $\frac{2}{5}$ ○ $\frac{2}{2}$ ○ $\frac{2}{4}$

- $\frac{5}{17} - \frac{2}{17} =$ _____

  ○ $\frac{7}{17}$ ○ $\frac{2}{17}$ ○ $\frac{3}{17}$ ○ $\frac{7}{34}$

- $\frac{6}{21} + \frac{7}{21} =$ _____

  ○ $\frac{1}{21}$ ○ $\frac{10}{21}$ ○ $\frac{13}{42}$ ○ $\frac{13}{21}$

- $\frac{5}{19}$ ☐ $\frac{5}{24}$

  ○ > ○ < ○ =

Complete.

- $\frac{9}{16} - \frac{7}{16} =$ _____
- $1 = \frac{\quad}{15}$
- $\frac{12}{20} - \frac{7}{20} =$ _____
- $1 - \frac{4}{9} =$ _____

Put > , < or =.

- $\frac{10}{20} - \frac{7}{20}$ ☐ $\frac{5}{20}$
- $\frac{2}{16} + \frac{4}{16}$ ☐ $\frac{13}{16} - \frac{11}{16}$
- $\frac{12}{15} - \frac{7}{15}$ ☐ $\frac{1}{15} + \frac{4}{15}$
- $\frac{3}{8}$ ☐ $\frac{8}{8} - \frac{5}{8}$
- $\frac{9}{13} - \frac{4}{13}$ ☐ $\frac{5}{13} - \frac{1}{13}$
- $\frac{13}{21} - \frac{6}{21}$ ☐ $\frac{3}{30} + \frac{4}{30}$

Sheet 20

Till lesson 90 chapter 3

Choose.

- $\frac{1}{9} + \frac{6}{9} =$ _____

  ○ $\frac{7}{18}$ ○ $\frac{7}{9}$ ○ $\frac{5}{18}$ ○ $\frac{5}{9}$

- $\frac{4}{5} - \frac{1}{5} =$ _____

  ○ $\frac{3}{5}$ ○ $\frac{5}{5}$ ○ $\frac{3}{10}$ ○ $\frac{5}{10}$

- The fraction of the shaded part of the shape is _____

  ○ $\frac{4}{6}$ ○ $\frac{4}{8}$ ○ $\frac{4}{9}$ ○ $\frac{4}{10}$

- $\frac{7}{18}$ ☐ $\frac{7}{24}$

  ○ > ○ < ○ =

Complete.

- $\frac{2}{18} + \frac{3}{18} =$ _____
- $\frac{8}{12} + \frac{3}{12} =$ _____
- $\frac{7}{9} - \frac{8}{9} =$ _____
- $1 - \frac{4}{7} =$ _____

Answer the following.

- Tony ate $\frac{1}{8}$ of a pie in one day, in the next day he ate $\frac{3}{8}$ of this pie.

  What fraction did Tony eat in all ?

- Emy divided her toys into 6 sixths. She gave her brother $\frac{2}{6}$ of the toys.

  What fraction of toys is left with Emy ?

Sheet 21

Till lessons 91 & 92 chapter 4

Choose.

- $\frac{1}{2}$ = _____

  ○ $\frac{2}{5}$ ○ $\frac{3}{7}$ ○ $\frac{5}{10}$ ○ $\frac{2}{6}$

- $\frac{2}{5}$ > _____

  ○ $\frac{4}{5}$ ○ $\frac{2}{3}$ ○ $\frac{3}{5}$ ○ $\frac{2}{8}$

- $\frac{7}{12} + \frac{2}{12}$ = _____

  ○ $\frac{9}{12}$ ○ $\frac{9}{24}$ ○ $\frac{5}{12}$ ○ $\frac{5}{24}$

- $\frac{\quad}{14} = \frac{1}{2}$

  ○ 6 ○ 7 ○ 1 ○ 14

Complete.

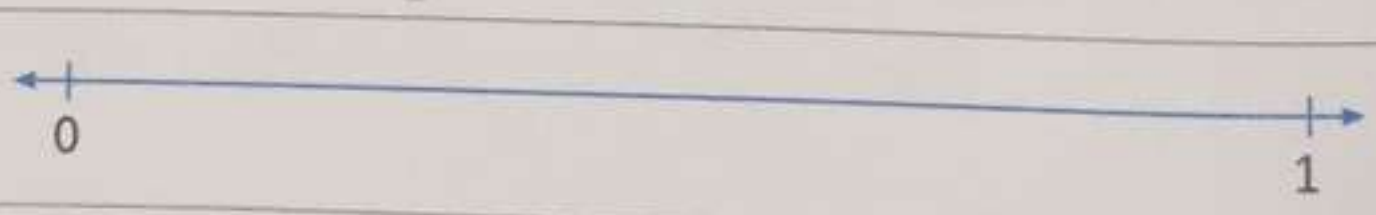
- $\frac{1}{2}$ is equivalent to _____ eighths.
- $\frac{1}{2}$ is equivalent to _____ sixths.
- $\frac{1}{2}$ is equivalent to _____ tenths.
- $\frac{9}{18} - \frac{4}{18}$ = _____

Answer the following.

- Nada has a bar of chocolate, she ate $\frac{1}{6}$ of the bar and her brother ate $\frac{2}{6}$ of the bar.

  What fraction shows what they both did eat ?

- Draw a number line and divide it into twelfths, then mark the fraction which is equivalent to $\frac{1}{2}$.



Sheet 22

Till lessons 93 to 95 chapter 4

Choose.

- $\frac{1}{5} =$ _____

○ $\frac{1}{10}$ ○ $\frac{2}{8}$ ○ $\frac{3}{15}$ ○ $\frac{4}{24}$

- _____ $> \frac{8}{18}$

○ $\frac{4}{9}$ ○ $\frac{2}{9}$ ○ $\frac{4}{8}$ ○ $\frac{9}{18}$

- $\frac{5}{9} = \frac{20}{__}$

○ 32 ○ 36 ○ 35 ○ 45

- $\frac{12}{19} - \frac{9}{19} =$ _____

○ $\frac{4}{19}$ ○ $\frac{2}{19}$ ○ $\frac{3}{19}$ ○ $\frac{1}{19}$

Complete.

- $\frac{1}{2} = \frac{__}{14}$
- $\frac{2}{6} + \frac{1}{6} =$ _____
- $\frac{3}{7} = \frac{12}{__}$
- $\frac{6}{__} = \frac{36}{48}$

Discover the pattern, then complete.

- $\frac{2}{7} = \frac{6}{__} = \frac{__}{28} = \frac{10}{__}$
- $\frac{3}{4} = \frac{__}{8} = \frac{12}{__} = \frac{18}{__}$
- $\frac{__}{3} = \frac{4}{6} = \frac{8}{__} = \frac{16}{__}$
- $\frac{5}{__} = \frac{15}{18} = \frac{30}{__} = \frac{__}{48}$

Sheet 23

Till lesson 96 chapter 4

Choose.

- $\frac{1}{6} = \frac{\quad}{\quad}$

  ○ $\frac{5}{24}$ ○ $\frac{4}{20}$ ○ $\frac{5}{30}$ ○ $\frac{1}{12}$

- $\frac{14}{35} = \frac{2}{\quad}$

  ○ 7 ○ 5 ○ 14 ○ 15

- $\frac{5}{10} = \frac{\quad}{\quad}$

  ○ $\frac{1}{5}$ ○ $\frac{1}{4}$ ○ $\frac{1}{3}$ ○ $\frac{1}{2}$

- $\frac{7}{9} = \frac{\quad}{45}$

  ○ 5 ○ 21 ○ 35 ○ 42

Complete.

- $0 = \frac{\quad}{8}$
- $1 = \frac{7}{\quad}$
- $\frac{4}{5} = \frac{12}{\quad}$
- $\frac{18}{36} = \frac{\quad}{6}$

Answer the following.

- Discover the pattern, then complete.

  $\frac{3}{5} = \frac{9}{\quad} = \frac{\quad}{20} = \frac{21}{\quad}$

- Draw a number line and divide it into tenths and mark the fraction which is equivalent to $\frac{3}{5}$.

Sheet 24

Till lesson 97 chapter 4

Choose.

- $\frac{3}{8} =$ ____

  ○ $\frac{15}{32}$ ○ $\frac{15}{24}$ ○ $\frac{12}{24}$ ○ $\frac{15}{40}$

- $\frac{2}{9} = \frac{14}{__}$

  ○ 18 ○ 63 ○ 45 ○ 54

- $\frac{20}{30} = \frac{__}{6}$

  ○ 4 ○ 5 ○ 6 ○ 7

- $\frac{1}{2} =$ ____

  ○ $\frac{7}{14}$ ○ $\frac{6}{16}$ ○ $\frac{5}{15}$ ○ $\frac{8}{18}$

Complete.

- $\frac{3}{9} + \frac{5}{9} =$ ____
- $\frac{8}{8} = \frac{5}{__}$
- $\frac{6}{21} = \frac{__}{7}$
- $\frac{4}{5} = \frac{28}{__}$

Answer the following.

- Amgad and Marwan have two bars of chocolate of the same size. Amgad divided his bar into ninths and ate $\frac{6}{9}$ of it. Marwan divided his bar into twelfths and ate the same amount as Amgad.

What fraction of Marwan's bar does show the amount he ate ?

Sheet 25

Till lessons 98 & 99 chapter 4

Complete the model, then choose the correct answer.

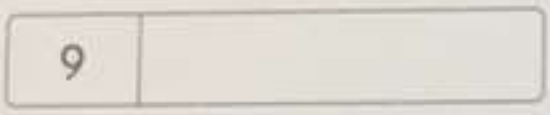
- $32 \div 4 =$ _____

○ 4 ○ 6
○ 8 ○ 10

- $24 \div 6 =$ _____

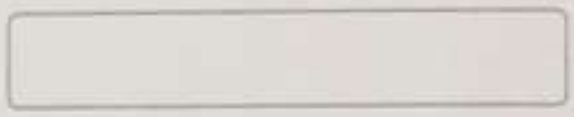
○ 4 ○ 5
○ 3 ○ 8

- $36 \div 9 =$ _____



○ 6 ○ 5
○ 4 ○ 3

- $40 \div 5 =$ _____



○ 5 ○ 6
○ 7 ○ 8

Complete.

Answers may vary

- $\frac{1}{2} = \frac{\quad}{\quad}$
- $\frac{\quad}{\quad} = \frac{8}{48}$
- $\frac{2}{7} < \frac{\quad}{\quad}$
- $\frac{6}{10} = \frac{\quad}{\quad}$

Answer the following.

- A father wants to divide 21 L.E. among his 3 children.

How much money will each child take ?

21

Each child takes = _____ ÷ _____ = _____ L.E.

Sheet 26

Till lesson 100 chapter 4

Choose.

- If $3 \times 9 = 27$, then $9 \times$ _____ $= 27$

○ 3 ○ 2 ○ 4 ○ 9

- If $56 \div 7 = 8$, then _____ $\times 8 = 56$

○ 8 ○ 7 ○ 9 ○ 6

- $\frac{3}{10} =$ _____

○ $\frac{6}{30}$ ○ $\frac{10}{30}$ ○ $\frac{13}{19}$ ○ $\frac{9}{30}$

- If $5 \times 7 = 35$, then $35 \div 5 =$ _____

○ 7 ○ 6 ○ 8 ○ 5

Complete.

- $\frac{18}{20} = \frac{\quad}{10}$
- $\frac{2}{8} = \frac{12}{\quad}$
- If $6 \times 10 = 60$, then $60 \div$ _____ $= 6$
- If $72 \div 9 = 8$, then $8 \times$ _____ $= 72$

Write the fact family for each of.

- 3 , 8 , 24
- 6 , 7 , 42

Sheet 27

Till lesson 101 chapter 5

Choose.

- $3 \times 8 =$ _____

  ○ 12 ○ 32 ○ 24 ○ 28

- $4 \times 15 =$ _____

  ○ 60 ○ 19 ○ 44 ○ 24

- $\frac{3}{10} + \frac{5}{10} =$ _____

  ○ $\frac{8}{20}$ ○ $\frac{8}{10}$ ○ $\frac{2}{10}$ ○ $\frac{2}{20}$

- $\frac{3}{5} >$ _____

  ○ $\frac{4}{5}$ ○ $\frac{3}{3}$ ○ $\frac{3}{7}$ ○ 1

Complete.

- $7 \times 0 =$ _____
- $9 \times 11 =$ _____
- $6 \times 5 =$ _____
- $\frac{8}{14} - \frac{6}{14} =$ _____

Answer the following.

- I am an odd number between 32 and 36. One of my factors is 5.

  What number am I ?

- If you double the digit in the ones place you will get the digit in the tens place, I am the product of two factors one of them is 9.

  What number am I ?

Sheet 28

Till lessons 102 & 103 chapter 5

Choose.

- $5 \times$ _____ $= 40$

  ○ 8 ○ 6 ○ 4 ○ 10

- _____ $\times 7 = 21$

  ○ 5 ○ 4 ○ 3 ○ 2

- _____ $\div 8 = 6$

  ○ 40 ○ 42 ○ 44 ○ 48

- $1 = \frac{6}{___}$

  ○ 1 ○ 6 ○ 8 ○ 12

Complete.

- $56 \div$ _____ $= 7$
- $9 \times 12 =$ _____
- $\frac{16}{24} = \frac{4}{___}$
- _____ $\times 5 = 25$

Answer the following.

- Martin bought 8 pens for 64 L.E.

  What is the price of each pen ?

- There are 10 packets, each packet has 7 toys.

  How many toys are there in all ?

Sheet 29

Till lessons 104 & 105 chapter 5

Choose.

- ____ ÷ 4 = 3

  ○ 3 ○ 5 ○ 6 ○ 12

- 6 × ____ = 30

  ○ 5 ○ 6 ○ 10 ○ 3

- ____ × 9 = 81

  ○ 8 ○ 9 ○ 10 ○ 7

- $\frac{7}{12}$ < ____

  ○ $\frac{7}{10}$ ○ $\frac{5}{12}$ ○ $\frac{7}{15}$ ○ $\frac{7}{20}$

Complete.

- 7 × 7 = ____
- 3 × 14 = ____
- 72 ÷ ____ = 9
- $\frac{8}{20} - \frac{5}{20}$ = ____

Write your own story problem to match the equation, then solve it.

Stories may vary

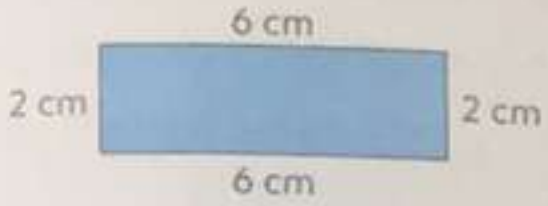
- 5 × 8 = ____
- 42 ÷ 6 = ____

Sheet 30

Till lesson 106 chapter 5

Choose.

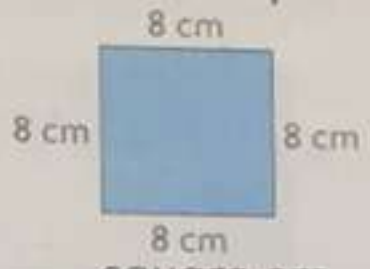
- The perimeter of the shape



is _____ cm.

○ 18 ○ 14 ○ 16 ○ 20

- The area of the shape



is _____ square cm.

○ 60 ○ 64 ○ 68 ○ 72

- $28 \div$ _____ $= 7$

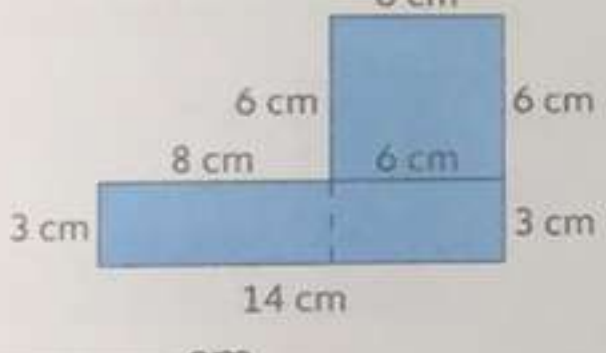
○ 3 ○ 4 ○ 5 ○ 7

- $12 \times 9 =$ _____

○ 21 ○ 90 ○ 18 ○ 108

Complete.

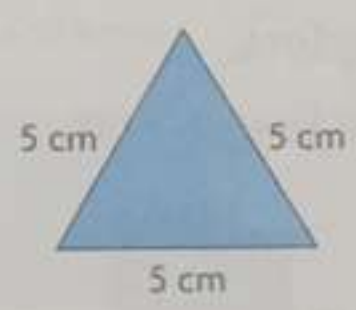
- The perimeter of the shape



is _____ cm.

- _____ $\times 7 = 35$

- The perimeter of the shape



is _____ cm.

- _____ $\div 8 = 4$

Draw.

- A triangle of perimeter 21 cm and label its sides.
- A quadrilateral of perimeter 30 cm and label its sides.

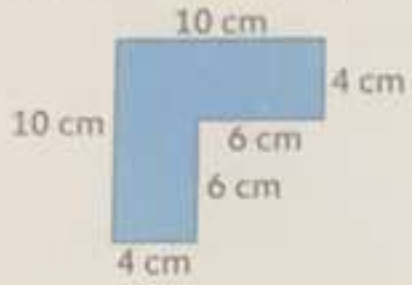
Answers may vary

Sheet 31

Till lesson 107 chapter 5

Choose.

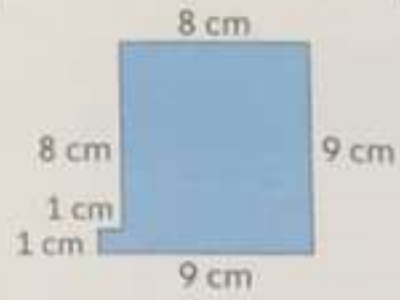
- The area of the shape



is _____ square cm.

○ 64 ○ 40 ○ 60 ○ 24

- The perimeter of the shape



is _____ cm.

○ 63 ○ 72 ○ 18 ○ 36

- The perimeter of the shape

is _____ cm.

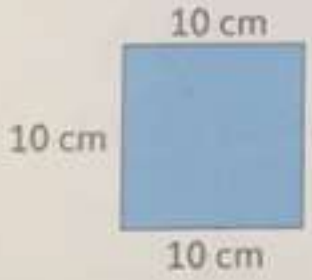
○ 22 ○ 14 ○ 8 ○ 28

- _____ × 5 = 45

○ 10 ○ 9 ○ 8 ○ 5

Complete.

- The length of the missing side in the shape

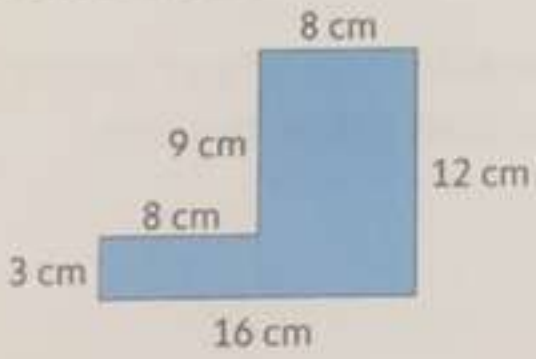


_____ cm is _____ cm.

- 30 ÷ 6 = _____
- 2 × 10 = _____
- _____ ÷ 8 = 2

Find the perimeter and area of each of the following figures.

-



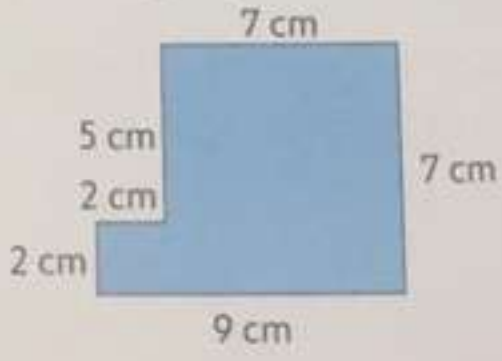
The perimeter = _____

= _____ cm.

The area = _____

= _____ square cm.

-



The perimeter = _____

= _____ cm.

The area = _____

= _____ square cm.

Sheet 32

Till lesson 108 chapter 5

Choose.

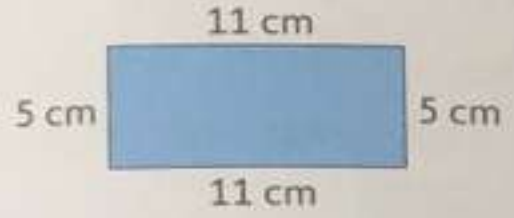
- If the area of a rectangle is 48 square cm and its width is 6 cm, then its length is _____ cm.

  ◯ 9 ◯ 14 ◯ 28 ◯ 8

- If the area of a rectangle is 28 square cm and its length is 7 cm, then its perimeter is _____ cm.

  ◯ 4 ◯ 11 ◯ 22 ◯ 14

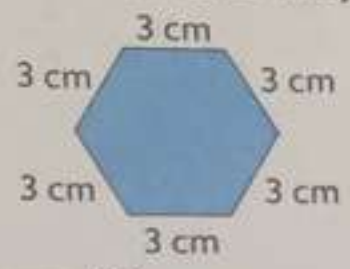
- The area of the shape



  is _____ square cm.

  ◯ 55 ◯ 50 ◯ 51 ◯ 15

- The perimeter of the shape

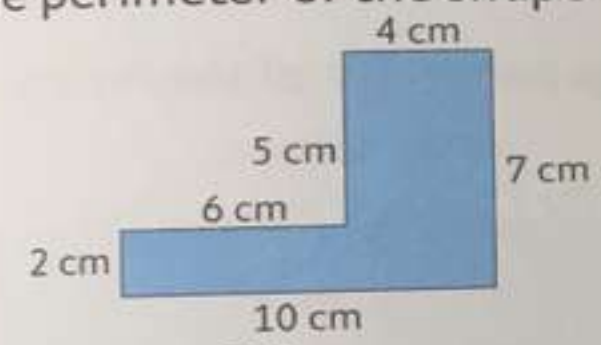


  is _____ cm.

  ◯ 18 ◯ 36 ◯ 12 ◯ 15

Complete.

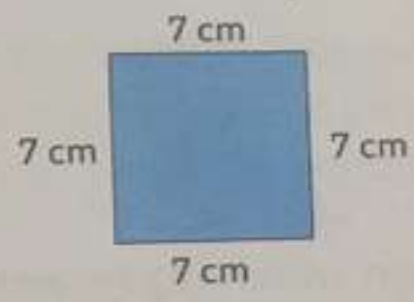
- The perimeter of the shape



  is _____ cm.

- _____ ÷ 8 = 10

- The area of the shape



  is _____ square cm.

- 4 × _____ = 36

Draw.

- A rectangle of area 18 square cm and length 6 cm.

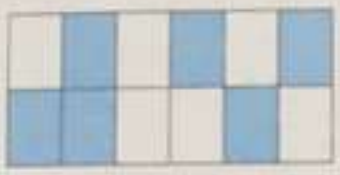
- A rectangle of area 8 square cm and width 2 cm.

Sheet 33

Till lesson 111 chapter 6

Choose.

- The fraction which represents the colored part in the figure is _____



○ $\frac{1}{2}$ ○ $\frac{1}{12}$ ○ $\frac{1}{6}$ ○ $\frac{6}{10}$

- The fraction which represents the colored part in the figure is _____

○ $\frac{1}{2}$ ○ $\frac{1}{3}$ ○ $\frac{2}{3}$ ○ $\frac{1}{6}$

- $2 \times$ _____ $= 20$

○ 6 ○ 8 ○ 10 ○ 12

- _____ $\div 9 = 3$

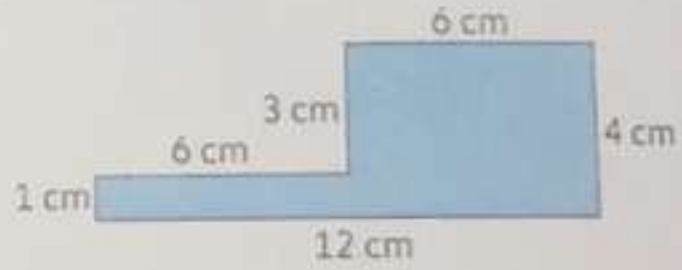
○ 18 ○ 12 ○ 24 ○ 27

Complete.

- The fraction which represents the colored part of the figure is _____

- The fraction which represents the colored part of the figure is _____

- The area of a square of side length 9 cm is _____ square cm.
- The perimeter of the figure is _____ cm.



Answer the following.

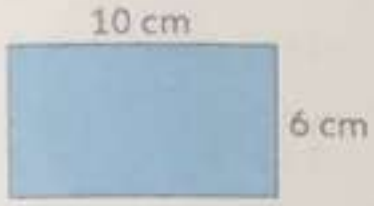
- Color half of each figure using unconventional way.

Sheet 34

Till lesson 112 chapter 6

Choose.

- Half the area of the rectangle is _____ square cm.

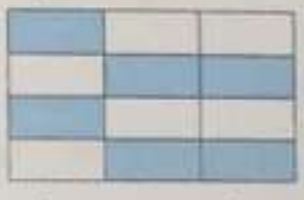


○ 60 ○ 15 ○ 30 ○ 20

- Half the area of the rectangle is _____ square cm.

○ 24 ○ 40 ○ 12 ○ 20

- The fraction which represents the colored part in the figure is _____



○ $\frac{5}{12}$ ○ $\frac{1}{2}$ ○ $\frac{6}{9}$ ○ $\frac{6}{6}$

- $42 \div 7 =$ _____

○ 8 ○ 7 ○ 6 ○ 5

Complete.

- Half the area of the rectangle is _____ square cm.

- $\frac{3}{7} = \frac{12}{___}$

- Half the area of the rectangle whose length is 12 cm and whose width is 7 cm = _____ square cm.

- $1 = \frac{___}{10}$

Answer the following.

- Hany has a piece of paper in the shape of a rectangle of dimensions 5 cm and 4 cm, he colored half the paper in red.

  What is the area of the colored part ?

- Noura is sweeping the floor of her room which is in the shape of a rectangle of dimensions 3 m and 4 m, if she swiped half the room.

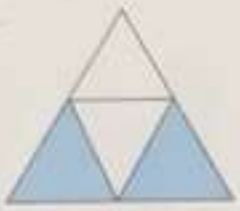
  What is the area of the swiped part ?

Sheet 35

Till lesson 113 chapter 6

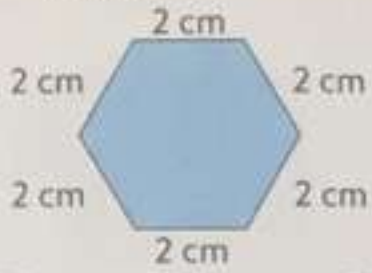
Choose.

- The fraction which represents the colored part in the figure is _____



○ $\frac{1}{4}$ ○ $\frac{2}{5}$ ○ $\frac{1}{2}$ ○ $\frac{2}{2}$

- The perimeter of the figure is _____ cm.



○ 10 ○ 6 ○ 4 ○ 12

- Half the area of the rectangle is _____ square cm.

○ 12 ○ 24 ○ 18 ○ 9

- 81 ÷ _____ = 9

○ 9 ○ 8 ○ 10 ○ 11

Complete.

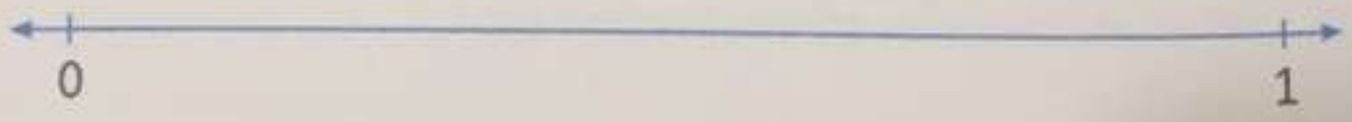
- A rectangle of area 40 square cm and width 5 cm, then the length is _____ cm.
- _____ × 6 = 42
- $\frac{18}{20} = \frac{9}{___}$
- $0 = \frac{___}{8}$

Answer the following.

Put the following fractions on the number line

- $\frac{1}{4}, \frac{3}{4}, \frac{4}{6}, \frac{6}{6}$

- $\frac{0}{5}, \frac{2}{8}, \frac{1}{12}, \frac{1}{2}$



Sheet 36

Till lesson 114 chapter 6

Choose.

- The value of the digit 4 in the number 34,622 is _____

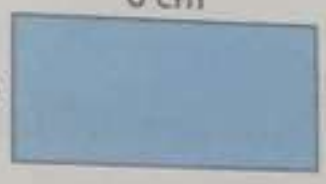
  ○ 400 ○ 4,000 ○ 4 tens ○ 40,000

- The greatest number formed from the digits 7 , 0 , 2 , 1 , 4 , 6 is _____

  ○ 102,467 ○ 706,421 ○ 746,120 ○ 764,120

- 246,200 _____ 89,751

  ○ > ○ < ○ =

- Half the area of the rectangle 

is _____ square cm.

  ○ 32 ○ 24 ○ 16 ○ 12

Complete.

- Two hundred thousand, four hundred ten in standard form is _____
- 561,348 = _____ + _____ + _____ + _____ + _____ + _____
- The least number formed from the digits 3 , 8 , 6 , 2 , 5 , 1 is _____
- The place value of the digit 9 in the number 902,433 is _____

Answer the following.

- Arrange the following numbers from least to greatest.

  75,600 , 750,600 , 675,000 , 705,006

  The order is : _____ , _____ , _____ , _____ , _____

- Arrange the following numbers from greatest to least.

  190,842 , 65,982 , 910,842 , 910,482 , 109,284

  The order is : _____ , _____ , _____ , _____ , _____

Sheet 37

Till lesson 115 chapter 6

Choose.

- If the start time is 10:10 A.M. and the end time is 12:15 P.M. , then the elapsed time is _____

  ◯ 1 hour and 45 minutes
  ◯ 2 hours and 15 minutes
  ◯ 2 hours and 5 minutes
  ◯ 3 hours and 5 minutes

- If the start time is 2:25 P.M. and the elapsed time is 3 hours and 15 minutes, then the end time is _____

  ◯ 5 : 30 P.M. ◯ 5 : 40 P.M. ◯ 4 : 50 P.M. ◯ 5 : 40 A.M.

- Three hundred forty thousand _____ 34 800

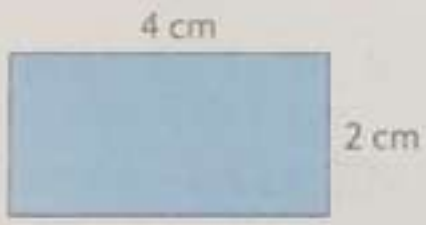
  ◯ > ◯ < ◯ =

- If the elapsed time is 1 hour and 40 minutes and the end time is 9 : 55 A.M., then the start time was _____

  ◯ 8 : 15 A.M. ◯ 8 : 00 A.M. ◯ 11 : 35 A.M. ◯ 8 : 15 P.M.

Complete.

- Half the area of the rectangle is _____ square cm.



- If the start time is and the end time is ,then the elapsed time is _____

- 100 000 + 4000 + 600 + 80 = _____

- Amir started studying at 10 : 00 A.M. He studied for 4 hours and 15 minutes, then he finished at _____

Answer the following.

- Bassem traveled from Cairo to Port Said, he started at 7 : 30 A.M. and arrived after 2 hours and 30 minutes.

  What time did he arrive Port Said ?

Sheet 38

Till lesson 116 chapter 6

Choose.

- The length of

is _____ cm.

○ $6\frac{1}{2}$ ○ 7 ○ $7\frac{1}{2}$ ○ $8\frac{1}{2}$

- The fraction which represents the colored part of the figure is _____

○ $\frac{1}{8}$ ○ $\frac{8}{8}$ ○ $\frac{3}{4}$ ○ $\frac{1}{2}$

- The length of

is _____ cm.

○ 4 ○ 5 ○ $4\frac{1}{2}$ ○ $5\frac{1}{2}$

- The value of the digit 2 in 234,564 is _____

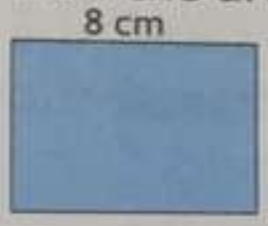
○ 40,000 ○ 4,000
○ 400,000 ○ 400

Complete.

- The length of

is _____ cm.

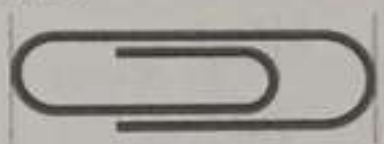
- Half the area of the rectangle



is _____ square cm.

- If the start time is 1:15 P.M. and the end time is 3:50 P.M., then the elapsed time is _____

- The length of



is _____ cm.

Answer the following.

- Use the lengths of some pencils to form a line plot.

Title _____

9 cm	$7\frac{1}{2}$ cm	10 cm
9 cm	$8\frac{1}{2}$ cm	9 cm
$8\frac{1}{2}$ cm	$7\frac{1}{2}$ cm	$7\frac{1}{2}$ cm
10 cm	$11\frac{1}{2}$ cm	11 cm

Key Each X = _____

Sheet 39

Till lesson 117 chapter 6

Choose.

- 24,552 ——— 100,725

  ◯ > ◯ < ◯ =

- Half the area of the rectangle is

——— square cm.

  ◯ 6 ◯ 8 ◯ 12 ◯ 16

- The length of is ——— cm.

  ◯ $3\frac{1}{2}$ ◯ $2\frac{1}{2}$ ◯ 4 ◯ $4\frac{1}{2}$

- If the start time is 8 : 15 A.M. and the elapsed time is 3 hours and 10 minutes, then the end time is ———

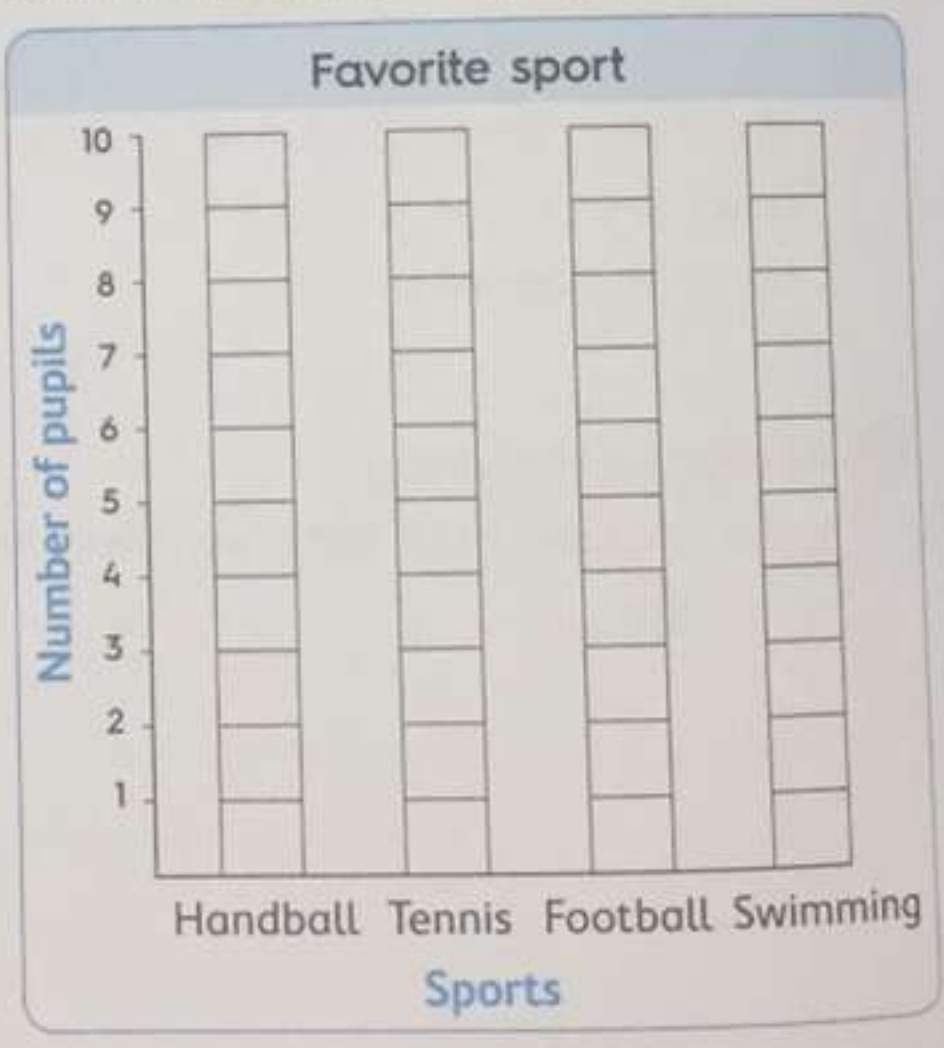
  ◯ 11 : 00 P.M. ◯ 11 : 25 P.M. ◯ 11 : 25 A.M. ◯ 11 : 05 A.M.

The following tally table shows the favorite sports of pupils in a class. Complete the table and represent these data by a bar graph.

Favorite sport		
Sport	Tally	Number
Handball	𝍸 |||	———
Tennis	||||	———
Football	𝍸 𝍸	———
Swimming	𝍸 |	———

Answer the following questions :

- Which sport is liked the most ? ———
- Which sport is liked the least ? ———
- How many more pupils liked football than tennis ? ———
- What is the total number of pupils in the class? ———

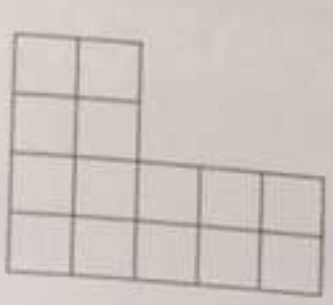


Sheet 40

Till lesson 118 chapter 6

Choose.

- The perimeter of



is _____ units

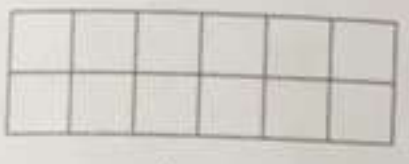
○ 18 ○ 19 ○ 17 ○ 20

- The area of

is _____ square units

○ 20 ○ 18 ○ 24 ○ 22

- The perimeter of



is _____ units

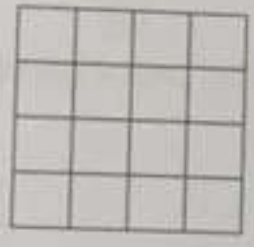
○ 12 ○ 16 ○ 18 ○ 20

- The place value of digit 5 in 153,812 is _____

○ tens ○ hundreds
○ thousands ○ ten thousands

Complete.

- The area of



is _____ square units.

- The length of

is _____ cm.

- If the start time is 3:20 P.M. and the end time is 7:40 P.M., then the elapsed time is _____

- The greatest number formed from 3 , 5 , 0 , 2 , 8 is _____

Answer the following.

- Arrange the following numbers from least to greatest.

  350,436 , 12,844 , 96,632 , 800,420 , 120,844

  The order is : _____ , _____ , _____ , _____ , _____

- Put the following fractions on the number line.

$\frac{1}{4}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{4}{8}$

Sheet 41

Till lessons 119 & 120 chapter 6

Choose.

- $5 \times 14 =$ _____

  ○ 80 ○ 54 ○ 70 ○ 75

- $\frac{2}{5} + \frac{1}{5} =$ _____

  ○ $\frac{3}{5}$ ○ $\frac{1}{5}$ ○ $\frac{3}{10}$ ○ $\frac{1}{10}$

- _____ $\div 7 = 6$

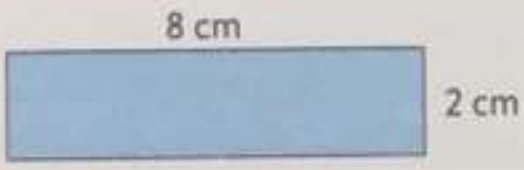
  ○ 42 ○ 49 ○ 21 ○ 35

- $\frac{3}{4} =$ _____

  ○ $\frac{6}{12}$ ○ $\frac{9}{16}$ ○ $\frac{12}{12}$ ○ $\frac{12}{16}$

Complete.

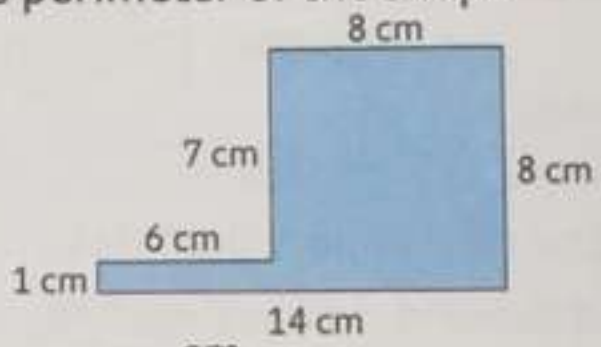
- Half the area of the rectangle



is _____ square cm.

- $5 \times 2 \times 8 =$ _____

- The perimeter of the shape



is _____ cm.

- $\frac{1}{3}$ of $27 =$ _____

Answer the following.

- Martin has 58 marbles, he used 5 bags to put each 10 marbles in each bag.

  How many marbles are not in bags ?

_____

- Write the missing numbers in the pattern.

  25 , 20 , 23 , 18 , 21 , _____ , _____

Final Assessments

Model 1

1 Choose.

(a) $(5 \times 8) \times 3 =$ _____

○ 150 ○ 140 ○ 130 ○ 120

(b) The shape is divided into _____ parts.

○ 3 equal ○ 2 unequal ○ 3 unequal ○ 2 equal

(c) $\frac{1}{2} =$ _____

○ $\frac{3}{7}$ ○ $\frac{4}{8}$ ○ $\frac{5}{9}$ ○ $\frac{1}{4}$

(d) $\frac{1}{4}$ _____ $\frac{1}{9}$

○ > ○ < ○ =

(e) _____ $\times 8 = 64$

○ 8 ○ 6 ○ 7 ○ 4

(f) $7 \times 13 =$ _____

○ 87 ○ 91 ○ 84 ○ 77

(g) The area of the shape

is _____ square cm.

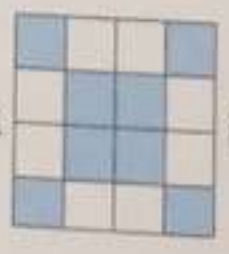
○ 72 ○ 66 ○ 60 ○ 78

(h) The value of the digit 2 in 210 346 is _____

○ 2 000 ○ 200 ○ 200 000 ○ 20 000

2 Complete.

(a) $\frac{2}{9} + \frac{4}{9} =$ _____

(b) The fraction that represents the shaded part  in the figure is _____

(c) _____ ÷ 7 = 2

(d) One whole = _____ fifths.

(e) ____ / ____ of the set are cars.

(f) $\frac{12}{42} = \frac{\quad}{7}$

(g) 7 × 0 = _____

(h) The side length of a square whose perimeter 16 cm is _____ cm.

3 Answer the following.

(a) Draw a number line and show tenths on it.

(b) Vera had 136 L.E. she gave 100 L.E. to charity and distributed the rest among her 4 friends equally.

How much money did each friend get ?

(c) I am an even number between 23 and 27

One of my factors is 6. **What number am I ?**

(d) Write the following numbers in the standard form

- Thirty-five thousand, six hundred and forty = _____
- 700 000 + 4 000 + 200 + 15 = _____

Model 2

1 Choose.

(a) The fraction that represents the shaded part is _____

○ $\frac{1}{2}$ ○ $\frac{4}{8}$ ○ $\frac{3}{8}$ ○ $\frac{1}{3}$

(b) _____ $< \frac{1}{6}$

○ $\frac{1}{4}$ ○ $\frac{1}{5}$ ○ $\frac{1}{7}$ ○ $\frac{1}{3}$

(c) $4 \times (6 \times 7) = (4 \times$ _____ $) \times 7$

○ 6 ○ 42 ○ 4 ○ 28

(d) $\frac{3}{7} = \frac{18}{__}$

○ 42 ○ 21 ○ 18 ○ 49

(e) 175 500 _____ 175 055

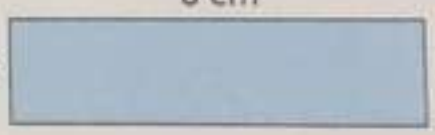
○ > ○ < ○ =

(f) $6 \times$ _____ $= 54$

○ 6 ○ 8 ○ 5 ○ 9

(g) $9 \times 16 =$ _____

○ 160 ○ 140 ○ 144 ○ 128

(h) Half the area of the rectangle 

is _____ square cm

○ 40 ○ 32 ○ 8 ○ 16

2 Complete.

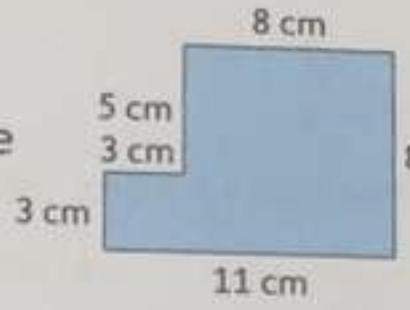
(a) $1 = \frac{\quad}{10}$

(b) The fraction whose numerator is 1 and its denominator is 7 is _____

(c) $35 \div$ _____ $= 5$

(d) The length of is _____ cm.

(e) $\frac{7}{10} - \frac{4}{10} =$ _____

(f) The perimeter of the figure 

is _____ cm.

(g) $\frac{1}{7}$ of $14 =$ _____

(h) $\frac{0}{5} =$ _____

3 Answer the following.

(a) A handball match started at 6:00 P.M. and ended at 8:25 P.M.

What is the elapsed time ?

_____

(b) Arrange the following from the least to the greatest.

5×15 , $2 \times 7 \times 8$, 9×12 , 6×10

The order is : _____ , _____ , _____ , _____

(c) Martin divided his toys into 8 eighths, he gave his sister $\frac{3}{8}$ of the toys.

What fraction of toys is left with him ?

_____

Model 3

1 Choose.

(a) The shape is divided into _____ parts.

○ equal ○ unequal

(b) $\frac{2}{3} <$ _____

○ $\frac{2}{2}$ ○ $\frac{2}{4}$ ○ $\frac{1}{3}$ ○ $\frac{2}{5}$

(c) _____ $\times 8 = 24$

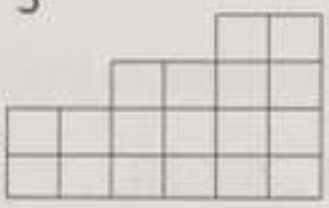
○ 4 ○ 3 ○ 2 ○ 6

(d) The perimeter of the rectangle whose length is 9 cm and its width is 7 cm is _____ cm.

○ 36 ○ 63 ○ 32 ○ 16

(e) $\frac{1}{6} =$ _____

○ $\frac{1}{12}$ ○ $\frac{2}{3}$ ○ $\frac{3}{9}$ ○ $\frac{5}{30}$

(f) The area of the figure  is _____

○ 20 ○ 18 ○ 28 ○ 14

(g) $\frac{3}{7} + \frac{1}{7} =$ _____

○ $\frac{4}{7}$ ○ $\frac{4}{14}$ ○ $\frac{2}{7}$ ○ $\frac{2}{14}$

(h) $36 \div 4 =$ _____

○ 6 ○ 9 ○ 4 ○ 7

2 Complete.

(a) The name of the equal parts in the shape is _____

(b) $\frac{8}{20} = \frac{2}{___}$

(c) $8 \times 14 =$ _____

(d) $48 \div$ _____ $= 6$

(e) The place value of the digit 7 in 372 061 is _____

(f) $1 =$ _____ Fourths.

(g) If the start time is 6 : 40 A.M. and the elapsed time is 3 hours and 5 minutes, then the end time is _____

(h) $1 - \frac{5}{9} =$ _____

---

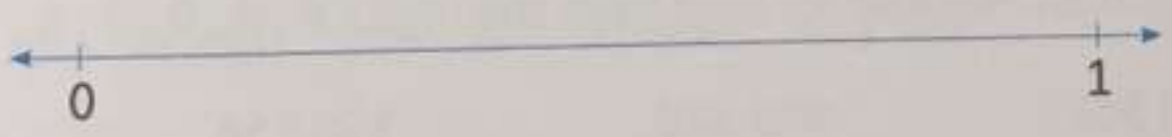
3 Answer the following :

(a) Complete the equivalent fractions.

$$\frac{3}{7} = \frac{___}{21} = \frac{15}{___} = \frac{21}{___}$$

(b) Draw a quadrilateral of perimeter 16 cm and label its sides.

(c) Represent $\frac{3}{10}, \frac{6}{10}, \frac{8}{10}$ on the number line



Model 4

1 Choose.

(a) $\frac{1}{8}$ of 56 = ——

○ 6 ○ 7 ○ 8 ○ 9

(b) 27 ÷ 9 = ——

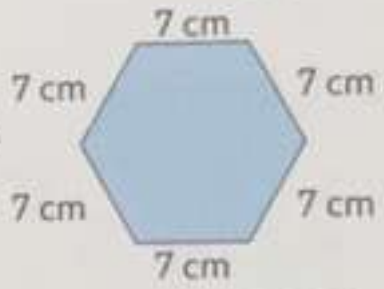
○ 6 ○ 5 ○ 4 ○ 3

(c) 3 × 17 = 3 × (—— + 7)

○ 10 ○ 13 ○ 7 ○ 20

(d) $\frac{7}{20}$ —— $\frac{7}{18}$

○ > ○ < ○ =

(e) The perimeter of the figure 

is —— cm.

○ 42 ○ 21 ○ 35 ○ 49

(f) —— × 9 = 18

○ 8 ○ 5 ○ 9 ○ 2

(g) —— of the set are bananas

○ $\frac{1}{5}$ ○ $\frac{1}{6}$ ○ $\frac{1}{2}$ ○ $\frac{1}{3}$

(h) The greatest number formed from the digits 8 , 3 , 0 , 5 , 6 , 1 is ——

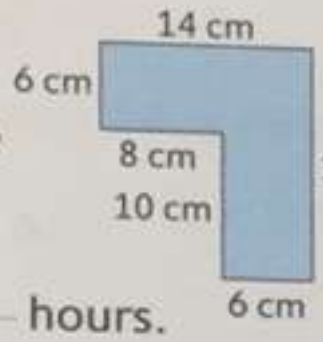
○ 830 561 ○ 865 310 ○ 830 156 ○ 856 310

2 Complete.

(a) If $2 \times 6 = 12$, then _____ $\div 2 = 6$

(b) $3 \times 4 \times 6 =$ _____

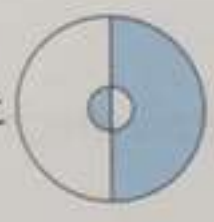
(c) 450 692 = _____ + _____ + _____ + _____ + _____
(in expanded form)

(d) The area of the shape 

is _____ square cm

(e) $\frac{1}{4}$ of a day = _____ hours.

(f) $\frac{4}{12} + \frac{7}{12} =$ _____

(g) The fraction which represents the shaded part  is _____

(h) $\frac{2}{6} = \frac{10}{___}$

3 Answer the following.

(a) Put the following fractions on the number line

$\frac{1}{2}$, $\frac{5}{6}$, $\frac{8}{8}$, $\frac{1}{3}$

(b) Ayman bought 7 pens for 49 L.E.

What is the price of each pen ?

(c) Arrange the following numbers from least to greatest.

542 620 , 54 620 , 389 677 , 21 000 , 143 800

The order is : _____ , _____ , _____ , _____ , _____

Model 5

1 Choose.

(a) $\frac{1}{2} =$ _____

○ $\frac{1}{5}$ ○ $\frac{10}{20}$ ○ $\frac{6}{10}$ ○ $\frac{8}{9}$

(b) $\frac{1}{3}$ of 30 = _____

○ 10 ○ 5 ○ 6 ○ 3

(c) $9 \times 12 =$ _____

○ 108 ○ 120 ○ 180 ○ 60

(d) The fraction which represent the shaded part is _____

○ 5/6 ○ 6/6 ○ 1/2 ○ 5/12

(e) 1 _____ $\frac{3}{8}$

○ > ○ < ○ =

(f) $\frac{12}{17} - \frac{5}{17} =$ _____

○ $\frac{17}{17}$ ○ $\frac{7}{17}$ ○ $\frac{7}{34}$ ○ $\frac{17}{34}$

(g) $6 \times 1 =$ _____

○ 6 ○ 7 ○ 5 ○ 8

(h) The value of the digit 3 in 125 636 is _____

○ 30 ○ 300 ○ 3 000 ○ 30 000

2 Complete.

(a) $8 \times 1 \times 7 =$ _____

(b) If the elapsed time is 2 hours and 10 minutes and the end time is 5:45 P.M. then the start time is _____

(c) The length of is _____ cm

(d) _____ $\times 5 = 45$

(e) $1 =$ _____ sevenths.

(f) $\frac{10}{10} = \frac{\quad}{7}$

(g) The area of a rectangle is 24 square cm and its width is 4 cm, then its length = _____ cm.

(h) $28 \div 4 =$ _____

3 Answer the following.

(a) **Put > , < or =.**

- $\frac{2}{5} \square \frac{2}{8}$
- 250 003 $\square$ 250 030
- $\frac{1}{4}$ of an apple $\square$ $\frac{1}{4}$ of a watermelon
- $\frac{3}{19} + \frac{6}{19} \square \frac{12}{19} - \frac{3}{19}$

(b) **Draw**

- A shape and divide it into ninths.
- A shape and divide it into fifths.

(c) Amal bought 3 kilograms of banana for 12 L.E. each and 1 kilogram of apple for 25 L.E. **How much money did she pay ?**

Model 6

1 Choose.

(a) The shape is divided into _____

○ halves ○ thirds ○ fourths ○ fifths

(b) If $32 \div 8 = 4$, then _____ $\times 8 = 32$

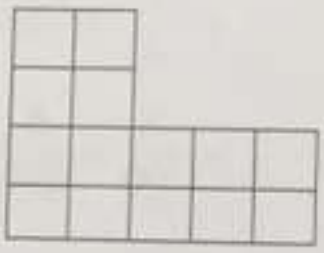
○ 4 ○ 8 ○ 12 ○ 6

(c) $5 \times 7 \times 6 =$ _____

○ 201 ○ 210 ○ 120 ○ 180

(d) $\frac{3}{6} <$ _____

○ $\frac{2}{6}$ ○ $\frac{3}{8}$ ○ $\frac{4}{6}$ ○ $\frac{1}{6}$

(e) The perimeter of the figure  is _____

○ 18 ○ 20 ○ 24 ○ 14

(f) _____ $\div 5 = 10$

○ 40 ○ 45 ○ 50 ○ 60

(g) $7 \times 19 =$ _____

○ $7 \times 10 \times 9$ ○ $7 \times (10 + 9)$ ○ $7 \times 10 + 9$ ○ $7 \times 10 + 7$

(h) $\frac{1}{3}$ of an hour _____ $\frac{1}{3}$ of a day.

○ > ○ < ○ =

2 Complete.

(a) $10 \times 9 =$ _____

(b) $0 = \frac{\quad}{15}$

(c) $\frac{7}{20} + \frac{6}{20} =$ _____

(d) _____ $= 100\,000 + 70\,000 + 400 + 80 + 6$

(e) Half the area of a rectangle, if its length is 6 cm and its width is 2 cm

= _____ square cm.

(f) The fraction of shaded part is _____

(g) If the start time is 1 : 05 P.M. and the elapsed time is 6 : 35, then the elapsed time is _____

(h) $\frac{8}{24} = \frac{\quad}{3}$

3 Answer the following.

(a) Sameh bought 9 books for 17 pounds each

How much money did he pay ?

(b) Use the numbers 3 , 6 , 18 to write the fact family.

(c) Dina ate $\frac{2}{10}$ of her pie, the next day she ate $\frac{4}{10}$ of the pie

what fraction did she eat ?

Model 7

1 Choose.

(a) Two hundred thirty one thousand, sixty eight is _____

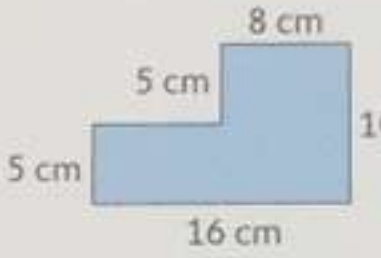
○ 231 680 ○ 23 168 ○ 31 068 ○ 231 068

(b) The area of a square of side length 10 cm is _____ square cm.

○ 40 ○ 100 ○ 80 ○ 50

(c) $9 \times 16 =$ _____

○ 144 ○ 135 ○ 108 ○ 160

(d) The perimeter of the shape 

is _____ cm.

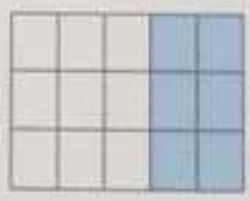
○ 26 ○ 44 ○ 52 ○ 49

(e) $\frac{4}{9}$ _____ $\frac{4}{7}$

○ > ○ < ○ =

(f) $\frac{13}{15} - \frac{12}{15} =$ _____

○ $\frac{1}{15}$ ○ $\frac{1}{10}$ ○ $\frac{1}{30}$ ○ $\frac{1}{5}$

(g) The fraction of the shaded part  is _____

○ $\frac{1}{15}$ ○ $\frac{6}{15}$ ○ $\frac{2}{15}$ ○ $\frac{1}{2}$

(h) 780 233 _____ 90 000 + 9 000 + 700 + 80 + 4

○ > ○ < ○ =

(i) $\frac{10}{18} = \frac{5}{__}$

○ 8 ○ 10 ○ 9 ○ 6

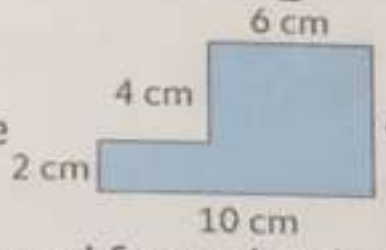
2 Complete.

(a) $63 \div$ _____ $= 7$

(b) $\frac{1}{6}$ of $24 =$ _____

(c) $\frac{1}{9} + \frac{4}{9} =$ _____

(d) $\frac{1}{2}$ is equivalent to _____ tenths.

(e) The area of the figure 

is _____ square cm.

(f) The least number formed from the digits 4 , 8 , 2 , 5 , 3 , 0 is _____

(g) The length of is _____ cm.

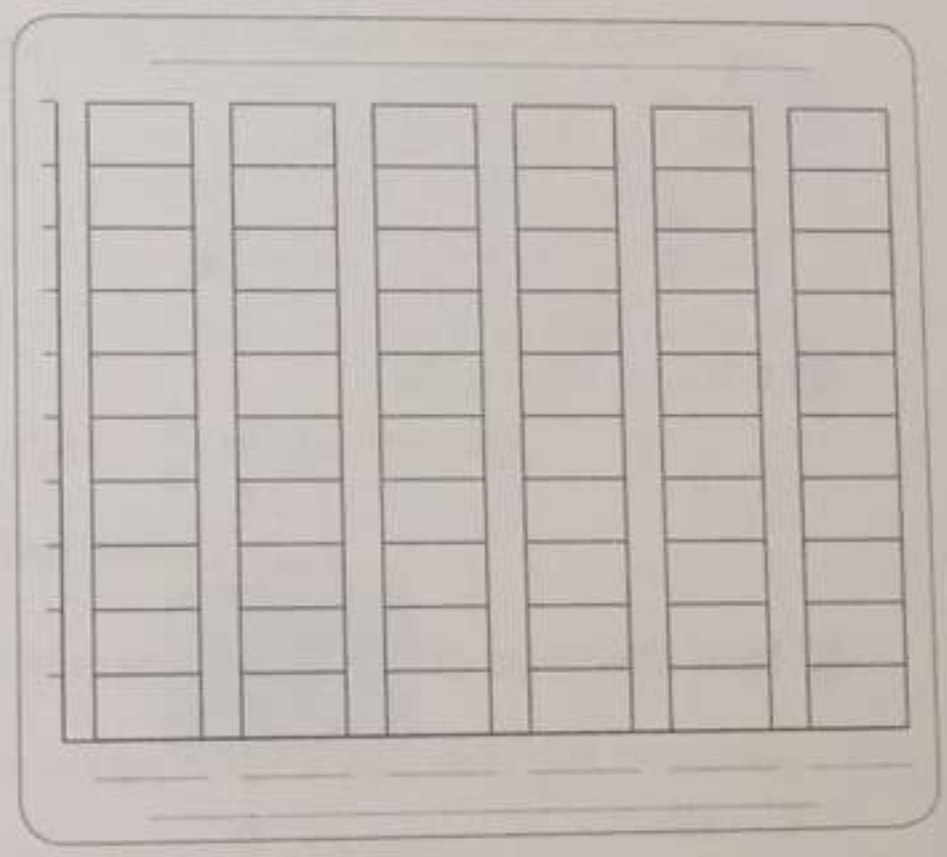
(h) $1 = \frac{15}{____}$

3 Answer the following.

(a) There are 8 bags, each bag has 4 boxes and each box has 10 marbles.
How many marbles in all ?

(b) Complete the table, represent the data by a bar graph.

Ages of children in music class		
Age in years	Tally	Number
7	||||	
8	||||	
9	||	
10	~~||||~~ |	
11	|||	
12	|||	



Answer the questions :

- How many children in the class are 7 years ? _____ children.
- What age is the greatest number of children ? _____ years old.
- How many children are even years old ? _____ children.
- How many children are in music class in all ? _____ children.

Model 8

1 Choose.

(a) $6 \times 19 =$ _____

○ 120 ○ 114 ○ 100 ○ 60

(b) $\frac{1}{7}$ _____ $\frac{1}{4}$

○ > ○ < ○ =

(c) $3 \times 7 \times 4 =$ _____

○ 84 ○ 49 ○ 40 ○ 33

(d) The shape is divided into _____

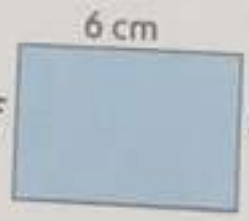
○ sixths ○ fourths ○ eighths ○ tenths

(e) $\frac{1}{2} =$ _____

○ $\frac{2}{5}$ ○ $\frac{7}{14}$ ○ $\frac{3}{8}$ ○ $\frac{6}{10}$

(f) $6 \times$ _____ $= 30$

○ 5 ○ 6 ○ 4 ○ 7

(g) Half the area of 

is _____ square cm..

○ 12 ○ 6 ○ 14 ○ 16

(h) The value of the digit 5 in 528 046 is _____

○ 500 000 ○ 50 000 ○ 5 000 ○ 500

2 Complete.

(a) $0 \times 6 =$ _____

(b) $\frac{1}{14} + \frac{6}{14} =$ _____

(c) _____ of the set are apples

(d) If the start time is 6 : 30 A.M. and the end time is 11 : 35 A.M., then the elapsed time is _____

(e) $\frac{21}{30} = \frac{\quad}{10}$

(f) The side length of the square whose perimeter 28 cm is _____ cm.

(g) _____ $\div 6 = 8$

(h) _____ $= 300\,000 + 4\,000 + 700 + 10 + 6$

3 Answer the following.

(a) If the area of a rectangle is 54 square cm and its width is 6 cm.

Find its perimeter.

(b) Mina has 64 L.E. He gave his brother $\frac{1}{8}$ of the money.

How much money did his brother take ?

(c) I am a number, if you doubled my tens place you will get the ones place, i am the product of two factors one of them is 8.

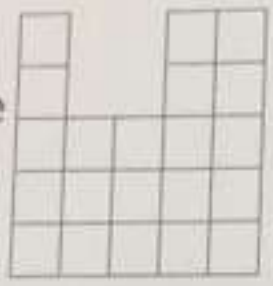
What number am I ?

Model 9

1 Choose.

(a) $\frac{1}{3} =$ _____

○ $\frac{4}{12}$ ○ $\frac{3}{10}$ ○ $\frac{2}{4}$ ○ $\frac{6}{20}$

(b) The area of the figure  is _____

○ 20 ○ 18 ○ 21 ○ 24

(c) $\frac{2}{7} >$ _____

○ $\frac{2}{2}$ ○ $\frac{4}{7}$ ○ $\frac{2}{5}$ ○ $\frac{2}{9}$

(d) _____ $\times 8 = 72$

○ 9 ○ 8 ○ 10 ○ 7

(e) The perimeter of a rectangle of length 12 cm. and width 7 cm. is _____ cm

○ 84 ○ 38 ○ 70 ○ 19

(f) $\frac{5}{18} + \frac{3}{18} =$ _____

○ $\frac{8}{36}$ ○ $\frac{2}{18}$ ○ $\frac{8}{18}$ ○ $\frac{2}{36}$

(g) The fraction of the shaded part is _____

○ $\frac{5}{6}$ ○ $\frac{1}{6}$ ○ $\frac{5}{5}$ ○ $\frac{1}{5}$

(h) $40 \div 5 =$ _____

○ 10 ○ 8 ○ 7 ○ 4

2 Complete.

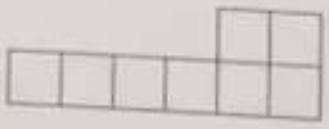
(a) The name of the equal parts in is _____

(b) $\frac{3}{5} = \frac{15}{__}$

(c) The place value of 6 in 268 840 is _____

(d) $1 - \frac{7}{10} =$ _____

(e) $7 \times 17 =$ _____

(f) The perimeter of the figure  is _____

(g) 1 = _____ ninths.

(h) _____ $\div 8 = 5$

3 Answer the following.

(a) Complete the table, represent the data by line plot.

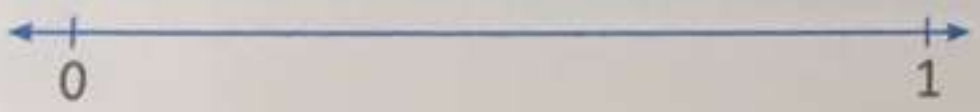
_____

Key Each **x** represents _____

Tallness of children in a class		
Tallness	Tallies	Number
128	𝍸	
130	𝍸	
135	𝍸 |	
139	𝍸 |	
140	𝍸 ||	
142	||	

(b) Put the following fractions on the number line

$\frac{2}{8}$, $\frac{4}{8}$, $\frac{7}{8}$, $\frac{0}{8}$



(c) Karim has 70 L.E. He gave his sister 20 L.E. and shared the rest with 4 of his friends.

What is the share of Karim ?